# The Mining Journal

## RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 309.—Vol. XI.] LONDON: SATURDAY, JULY 24, 1841. [Price 6d.


## PUBLIC COMPANIES.

### MEETINGS.

COPIAPO MINING COMPANY.—Notice is hereby given, that the ANNUAL MEETING of proprietors will be held at the company's office, 22, Austinfriars, on Thursday, the 29th instant, at One o'clock precisely, when the election of two directors and one auditor will take place. Thomas Masterman, Esq., and George Lewis Hollingsworth, Esq., directors, and John Deacon, Esq., auditor, who go out by rotation, being eligible, are candidates for re-election.

By order of the directors,
22, Austinfriars, July 8. FRED. GRELLET, Sec.

COMBMARTIN AND NORTH DEVON MINES.—The GENERAL ANNUAL MEETING of the shareholders in the above concern will be held at the Mine, on Wednesday, the 18th day of August next, at Twelve o'clock at noon.

WILLIAM NEWTON, Secretary.
Combmartin, July 20.

DANESCOMBE MINING COMPANY.—The directors of the above company give notice, that an ANNUAL GENERAL MEETING of the shareholders will be held at the office of the company, 26, Birchin-lane, London, on Thursday, the 29th July instant, at Two o'clock precisely.
26, Birchin-lane, London, July 9.

POLBREEN TIN AND COPPER MINING COMPANY.—Notice is hereby given, that, in compliance with a requisition signed by ten shareholders, requesting the directors of this company to call a Special General Meeting of the shareholders therein, to take into consideration the present state of the company's affairs, and more particularly to re-consider the report of Mr. Johnson, the directors of this company do appoint such SPECIAL GENERAL MEETING of shareholders who have paid all their calls, to be held at the offices of the company, No. 44, Finsbury-square, London, on Tuesday, the 3d day of August next, at Two o'clock in the afternoon precisely, for the purposes mentioned in such requisition.—Dated this 21st day of July, 1841.

REDMOOR CONSOLIDATED MINING COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of such of the shareholders of this company as have advanced the additional capital, will be held on Tuesday, the 17th day of August next at Two o'clock in the afternoon precisely, at the George and Vulture Tavern, Cornhill, in the city of London, for the purpose of authorising the managers to call for the payment of the remaining sum of £1 per share of such additional capital, in such instalments as they (the managers) may think proper; and on other special matters.

Dated this 23d day of July—44, Finsbury-square. E. H. PLUMPTRE.

ST. JOHN DEL REY MINING COMPANY.—A SPECIAL GENERAL MEETING of the proprietors of this company will be held at the company's office, No. 8, Tokenhouse-yard, on Friday, the 30th instant, at Two o'clock in the afternoon precisely, at which the superintendent of the mines will attend.

GEORGE D. KEOGH, Sec.
8, Tokenhouse-yard, Lothbury, July 19.

### CALLS.

CORNUBIAN MINING COMPANY.—The directors of this company having made a CALL of TEN SHILLINGS per share, payable, on or before the 28th of August next, the shareholders are requested to pay the same to the Union Bank of London, 8, Moorgate-street.

44, Finsbury-square, July 22.

DE DUNSTANVILLE COPPER MINING COMPANY.—Notice is hereby given, that a CALL of TEN SHILLINGS per share was this day made by the directors on the shareholders of the above mine, to be paid on or before the 30th August next, at this office.
26, Birchin lane, London, July 15.

REETH CONSOLIDATED MINING COMPANY.—FIFTH CALL.—The directors of the Reeth Consolidated Mining Company hereby give notice, that they have this day made a CALL of FIVE SHILLINGS per share upon the shares of this company, and the proprietors of shares therein are requested to pay the amount, on or before the 16th day of August next, at the bank of Messrs. William Williams Brown, Charles Barr, and Co., bankers, Leeds.

By order of the directors.
JOHN BLACKBURN, Secretary.
Company's office, 26, Albion-street, Leeds, July 7.

*** Shareholders neglecting to pay their calls will incur the absolute forfeiture of their shares.

### DIVIDENDS.

EUROPEAN GAS COMPANY.—Notice is hereby given, that the HALF-YEARLY DIVIDEND due on the 1st of August next, will be paid at the company's offices, 69, Finsbury-circus, London, on that and every following day, between the hours of Eleven and Three o'clock.

By order of the board,
July 17. ARTHUR SPEAR, Secretary.

ROYAL SANTIAGO MINING COMPANY.—The directors hereby give notice, that the SIX MONTHS' DIVIDEND, of TWO POUNDS TEN SHILLINGS per share, declared this day, will be paid at the office of the company, 38, Broad-street-buildings, on and after Monday, the 19th instant. The proprietors are requested to leave their dividend warrants three days before the day of payment.—July 14.


ANDREW SMITH'S PATENT WIRE ROPES, for standing rigging, lightning conductors, stropping of blocks, mining, railway, and general purposes; about half the size and weight of hempen ropes, and 25 per cent. cheaper. Testimonials to that effect, with specimens, may be seen, and every information obtained, at the office, 74, Old Broad-street, city; 69, Princes street, Leicester-square; manufactory, Mill-wall, Poplar; and also of the following agents:—

| | |
|---|---|
| Robertson and Co., 12, Goree Piazzas | Liverpool. |
| Matthias Dunn | Newcastle-on-Tyne. |
| Joseph Rothwey | Plymouth. |
| John Thompson and Co. | Wigan. |
| J. T. Tregellas | Truro. |
| Thomas Mooney and Son | Dublin. |
| Perrin and Nolan | Wicklow. |
| Coates and Young | Belfast. |
| James Kibble and Co. | Glasgow. |
| James Gunn | Leith. |
| J. M. Beattie, Clements's lane, High-street | Dundee. |

This rope has been in use for standing rigging in her Majesty's Navy, and in a great number of merchants' ships, for upwards of five years, and is giving the highest satisfaction; the rope is also employed in various mines and railways in different parts of the kingdom, but reference is especially made to the Chatwell Railroad, where its capabilities have been most severely tested, for although it has been in use upwards of ten months, and has travelled a distance nearly equal to the circumference of the earth, it is, to all appearance, as good as when first applied.

TO THE MINING AND SHIPPING INTERESTS.—PATENT FELT FOR CLOTHING STEAM ENGINES.—I. T. TREGELLAS begs to inform the public that, on his appointment from the patentees as their agent for this district, he has just received a supply of the PATENT FELT at his stores, which he is enabled to offer at the manufacturer's prices.—I. T. T. will feel great pleasure in forwarding to engineers, or other interested parties, a copy of Engineer Wicksteed's highly satisfactory report on this article, now so much in demand.

PATENT WIRE ROPE.

I. T. Tregellas avails himself of this opportunity to thank those who have given them the first and economical proof a fair trial of several months, have kindly forwarded him such highly satisfactory reports thereon. All interested in the economy of mine materials and ship rigging, are invited to inspect the said testimonials and samples of the rope at I. T. Tregellas's office.—N.B. A mine rope of 1¼ inch circumference, weighing 7 lbs. 12 oz. per fathom, is warranted to lift 6½ tons, price 3s. per fathom, and is now obtaining general use, instead of the 3 inch hemp rope—other sizes in proportion. A 3-inch wire rope ship's stay is equal to a 9-inch hemp stay.—Truro, June 1.

*** All orders for Smith's Patent Wire Rope, for Cornwall, should be forwarded to I. T. Tregellas, Truro, whose prices and terms will be the same as if ordered of the manufacturer direct.

THE THAMES TUNNEL is Open every day (except Sunday) from Nine to the morning until dusk.—The entrance is on the Surrey side of the river, close to Rotherhithe Church. The Tunnel is lighted with gas. Admittance, One Shilling each.

By order,
Company's Office, Wellcroft-buildings, J. CHARLIER,
Wellcroft, July 22, 1841. Clerk to the Company.

N.B.—Conveyances to Rotherhithe, by omnibus, from Piccadilly, Charing Cross, Fleet-street, and Greenwich-street; and, by steam boats, from Chelsea, Vauxhall, Lambeth, Hungerford, the Old Stairs Pier, and London Bridge, to the Tunnel Pier at Wapping. Books, with plates descriptive of the works, are sold at the Tunnel, price One Shilling.

WANTED, an active efficient underground MINE CAPTAIN, possessing good general knowledge of mining operations, dialling, &c. Application, with references for character and ability, stating salary required (which must be moderate), to be made to Mr Edward Barnes, Ballymurtagh, Rathdrum; or to Mr. Nicholas Vivian, Camborne, Cornwall.

TO MINE OWNERS, &c., &c.—WANTED, a situation as MINE AGENT, by a person competent to the general management of every branch of mining, either at surface or underground; having had a very long experience, and extensive establishment to superintend, the advertiser feels confident he should give satisfaction to any party engaging him; the highest testimonials as to character and ability can be given. For further particulars address (post-paid) "A. B.," care of the Editor of this Journal, 37, New Broad street, London.

N.B. Would have no objection to go abroad.

PLATT BRIDGE COLLIERY,

Situated at Ince, in Mackerfield, in the parish of Wigan, and county of Lancaster.

TO BE SOLD, BY AUCTION, BY Mr. C. N. WRIGHT, at the British Hotel, in Liverpool, on the 27th day of July, at Three o'clock in the afternoon, subject to such conditions of sale as will be then and there produced,

IN ONE LOT,

All that valuable FREEHOLD ESTATE, situate, lying, and being in the township of Ince, within Mackerfield, in the county of Lancaster, and heretofore called or known by the name of BOLTON'S FARM, together with the seven several Messuages, Cottages, or Tenements, Barn, and Stable, now standing upon the same, containing in the whole thirteen statute acres, or thereabouts, be the same more or less. Also all those several pieces or parcels of improved MOSS LAND, adjoining or contiguous to Bolton Farm, and now occupied therewith, containing in the whole 27A. 1R. 31P (statute measure), or thereabouts, be the same more or less, together with all and every the mines, minerals, or beds of coal, culm, and cannel, lying under the whole of the above-described property, and also lying under five several closes, pieces or parcels of land, called or known by the several names of the Round Meadow, the Lower Hey, the Two Acre Meadow, the Three Rood Land (sometimes called Ingram's Croft), and the Ploughed Moss, and containing together nine acres of Cheshire measure, or thereabouts; which said five last-described closes or parcels of land, formerly belonged to the above-mentioned estate, called Bolton's Farm, but which said five several closes were, in the year 1826, sold to one Richard Kaye, the mines or beds of coal, with the usual powers of getting the same being then reserved to the vendors or their assigns.

The whole of the above mentioned mines or beds of coal are now under lease for the term of twenty-one years, from August, 1837, at the annual rent of 300l. and 6d. per foot per acre. The cottages are let with the mines, at a rental of 25l. per annum, and the surface of the land is let to a tenant at will at 35l. per annum. The coal underneath the estate is of first-rate quality, and the cannel lies at a short distance from the mines already sunk down to. The pit now in work is connected with a branch cut, which leads into the Leeds and Liverpool Canal. The estate (over which the North Union Railway passes) will be sold subject to certain annuities and other incumbrances, which will be particularly stated at the time of sale. The colliery is eligibly situated for business, and the whole estate would be an excellent investment.

To view the premises, apply to Mr. W. Roberts, the tenant: and further particulars may be obtained of Mr. Alfred Hacknall, Loughborough; or at the office of Messrs. Fox and Lowe, solicitors, Nottingham; and printed particulars may be had at the Eagle and Victoria Inns, Wigan, and at the place of sale.

CAMBORNE, CORNWALL.—MINING MATERIALS FOR SALE.

TO BE SOLD, BY AUCTION, on Wednesday, the 4th day of August, 1841, by Eleven o'clock, at Trevorrian Mine, in the parish of Camborne, the whole of the MACHINERY and MATERIALS thereto belonging, comprising a superior 50-inch cylinder steam engine, with boiler, &c., complete; pumps, capstan, capstan and other ropes, chain, together with every article of machinery and materials connected with a mine in full operation of working.—For further particulars apply to the agents on the mine, or to Mr. J. H. Edwards, auctioneer and mine broker, Camborne.

Camborne, July 19.

PERIODICAL SALE.

CORNWALL.—VALUABLE TIN AND COPPER MINES, STEAM ENGINE, AND OTHER MACHINERY AND MATERIALS, in the parish of Gwinear, Cornwall.

MESSRS. SHUTTLEWORTH and SONS are instructed to SELL BY AUCTION, at the Mart, on Friday, August 6, at Twelve, instead of July 6, as previously advertised, and postponed on account of the elections, all that EXTENSIVE TIN AND COPPER MINE,

called TREVASKUS, situate in the parish of Gwinear, in the county of Cornwall, worked and carried on under or by virtue of several sets or leases for several terms of twenty-one years, of which eleven years are unexpired, and the liberties, licences, powers, and authority thereby granted.—And also, the STEAM-ENGINE, which is nearly new and of the best construction, and having a 50-inch cylinder, together with the STAMPS, and the various other MACHINERY, MATERIALS, HALVANS, and EFFECTS, now being upon, and belonging to, the said mine.

And, at the same time, will be offered for SALE, the SETT or LICENSE of the PROMISING PIECE of GROUND which adjoins the Trevaskus Mine on the east, but is as yet unworked by the adventurers, who have only recently obtained the sett, which is granted for a period of twenty one years. This piece of ground is considered valuable in extent, and, as regards its appearance and situation, is a desirable and valuable appendage to the Trevaskus Mine. That the ore which has been produced from this mine is of a superior and the finest quality, is well known, and its value is fully appreciated at the public tinkerings, where it always fetches a high price. The mine has been worked by a highly respectable and responsible company of adventurers, at an outlay of upwards of £32,000, and £10,000 worth of ore and upwards has been raised within about a period of five years. Several of the present adventurers consider the investment so desirable, that they are desirous to continue their interest in the mine, and they will take shares in any company that may be formed.

Further particulars may be obtained on application to Captain John Lean, on the mine; of Messrs. Paul, Smith and Roberts, solicitors, Truro; at the Mart; of Messrs. Addington, Gregory, Faulkner, and Follett, solicitors, 1, Bedford row; and of Messrs. Shuttleworth and Sons, 78, Poultry.

VALUABLE COPPER AND LEAD MINES IN THE COUNTY OF MERIONETH.

TO BE SOLD, BY PRIVATE CONTRACT, all those the mines of copper and lead ore, and all other ore, metal and minerals, and useful earths in, upon, or under a vein, commonly called or known by the name of CWM HESIAN UCHA, situate and being in the parish of Llanfachreth, in the county of Merioneth, and now or late in the occupation of Rose Jones. The above mines are held for the residue of a term of twenty-one years, of which upwards of sixteen years are unexpired, subject to the reader or payment to the lessor of one ton in every nine tons of ore and other materials, washed, cleansed, and made merchantable, and subject also to the provisions usually inserted in leases of the like nature—together with the machinery set up and affixed for working the said mines, consisting of an excellent water-wheel, 24 ft. in diameter, 4 ft. 6 in., connected by rods with a 7-inch pump in the perpendicular shaft, sundry mining implements, smith's shop, bellows, &c., &c. A considerable sum of money has been expended in developing the mines, which are believed to contain considerable quantities of valuable metal, especially lead ore. To the capitalist the present affords a good opportunity for investment, and immediate possession may be had, and sufficient ore may be raised to pay cost in a very short time. For further particulars application may be made to Mr. R. W. Byers, Tremadoc, or to Mr. Jones, solicitor, Manchester.

SHARE IN VALUABLE LEAD MINES.

TO BE DISPOSED OF, under an assignment for the benefit of creditors, ONE 14th SHARE in all those valuable LEAD MINES, situate and being in the Isle of Man, held under a lease from the Crown for an unexpired term of fourteen years, and extending over about 200 square miles of country, the whole of which is a mineral district. The mines are now producing about 250 tons of lead ore, rich in silver, per month, and which quantity is monthly on the increase, as several new and extensive veins have lately been discovered, and are now working upon—one in particular, in which the ore has been proved for a length of about 120 fathoms, and from three to four feet wide, nearly solid. The great Foxdale vein, which has been at work for several years, and intersects the island from sea to sea, being about sixteen miles in length, is from twelve to eighteen feet wide, and in several places where it has been intersected by another vein, it has produced ore throughout the whole width, in one, varying from six inches to four feet wide, solid. The deepest mine on this vein is now seventy-three fathoms, and the ore as strong as ever it was on the bottom, thereby proving the bearing of the veins to a great depth. The mines are now making regular and large profits, and will be sold so as to pay the purchaser a handsome per centage for his money. The Crown never disturb their mineral tenants, who work the mines effectually, as this company have done, and is now doing; there can be, therefore, no doubt about the renewal of the lease. The share, if required, will be subdivided, for the convenience of purchasers.

For further particulars, and to treat for the same, apply to Messrs. Roberts and Son, solicitors, Mold; or to Mr. William Jones, mining office, Chester.

TO IRONMASTERS, RAILWAY CONTRACTORS, COLLIERY AGENTS, AND OTHERS.

MALLEABLE IRON RAILS.—The GREAT NORTH OF ENGLAND RAILWAY COMPANY propose to SELL, by PRIVATE CONTRACT, the following quantity of IRON RAILS and CHAIRS, viz.:—20 tons of 22 lb. parallel bar; 350 tons of 20 lb. flange rail; 10 tons of 3 lb. sleep; with 3470 chairs, from 7 to 14 lbs. each, suiting to the above rails.—For further particulars apply to Henry Wishwell, of Darlington, the company's resident engineer.

Darlington, July 14.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The ELEVENTH MEETING of the British Association for the Advancement of Science will be held in Plymouth, commencing on Thursday, July 29, 1841, and concluding on Wednesday, August 4.—Members, and gentlemen who are desirous of becoming members, may, on their arrival, obtain in the reception-rooms at the Royal Hotel, Plymouth, and the Royal Hotel, Devonport, references to lodgings, and all other requisite information, on and after Monday, July 26, from 8 A.M. to 6 P.M.

JOHN TAYLOR, F.R.S., General Treasurer.
JAMES YATES, F.R.S., Secretary to the Council.

First-class steamers for Plymouth and Devonport leave

LONDON—From Irongate Wharf, Wednesdays and Saturdays.
SOUTHAMPTON—Tuesdays, Thursdays, and Fridays.
DUBLIN—Wednesdays and Saturdays.
CORK—Saturdays.
BELFAST—Mondays.
FALMOUTH—Mondays, Thursdays, and Fridays.

Several coaches daily from London to Plymouth and Devonport; time on the road from twenty-one to twenty-five hours.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The NINTH ANNUAL EXHIBITION will take place at the Polytechnic Hall, Falmouth, on Tuesday, the 10th of August, and two following days. The members of the society, and holders of transferable tickets, will be admitted at Eleven o'clock, and non-subscribers at Twelve o'clock, on the first day, on presenting their tickets of admission at the door.—The exhibition will be opened at Ten o'clock on the following days, and close at Four.—The chair will be taken and the prizes awarded on the first day of the exhibition.—Competitors are divided into four classes:—

The first class consists of the members of the society, and of persons resident in the county, who may compete for prizes on paying 2s.—such payment entitling them also to a ticket of admission, at twelve o'clock, on the first day. Competitors of this class must attach to their performances two sealed notes (which may be had of Mrs. Trathan, or of any of the agents); each of them containing within the name and residence of the competitor, and on the outside some private mark, with the words, "Original" or "Copy," and (in paintings, &c.) "Professional" or "Amateur," as the case may be.

The second class consists of persons of the working orders.

The third class consists of schools for the higher branches of education.

The fourth class consists of schools for the children of the working orders.

The second, third, and fourth classes may compete for prizes without any payment, by stating the class, name, and residence.

All productions not stated to be "original" will be considered "copies."

Articles intended to compete for prizes must be sent in on Friday, the 6th, or Saturday, the 7th of August, after which time they cannot be received for competition.—Competitors of the second class, who have models of machinery, &c., to send, need not pay the carriage, if they direct their boxes with a card, which may be obtained from any of the agents. This card must be signed by a member of the committee, to whom the model must be submitted for approval. All other articles must be sent free of expense.—Those friends of the society who intend sending articles for exhibition only, will be kind enough to send them in not later than noon on Monday, the 9th of August.

Members may obtain their tickets on application to Mrs. Trathan, bookseller, Falmouth, where non-subscribers may procure tickets of admission for the first day, price 2s., and for the following days, price 1s.

Falmouth, July 19. ROBERT HUNT, Secretary.

Agents.—Mrs. Trathan, Falmouth; Mrs. Heard, Truro; Mr. Rodda, Penzance; Mr. H. Carlyon, Helstone; Mr. R. Rice, Redruth; Mr. L. Newton, Camborne; Mr. J. Drew, St. Austell; Mr. R. Esterbrook, Liskeard; Mr. R. White, Lostwithiel; Mr. Liddell, Bodmin.—An ordinary will be provided at Pearce's Hotel.

ROYAL POLYTECHNIC INSTITUTION, Regent-street.—CARY'S DISSOLVING ORRERY, and the NEW DISSOLVING VIEWS, of increased beauty (executed by Messrs. Wrench and Smith), with appropriate music. MOINAU'S PATENTED CLOCKS, the PHOTOGRAPHIC PORTRAITS and nearly Two Thousand Works, which display customs, art, science, and ingenuity. The Microscope, Diver, and Diving Bell, popular Lectures, and beautiful Experiments. Canton, and other beautiful Chromatropic Views in the Evenings, in addition to all the interesting subjects of the Morning.—Opens at Half-past Ten o'clock in the Morning, and Seven o'clock in the Evening.—Admission, One Shilling.

GEOLOGICAL TRANSACTIONS.—VOLUME VI., PART I., is this day published, 320 pages 4to, twenty-two plates of fossils, coloured maps and sections, nine wood cuts, and the following papers:—Hamilton and Sutherland, on Asia Minor—Owen, on chamopsaurus, the Stonesfield jaws, megalosaurus, dig nodon, &c. of Ichthyosaurus, hyracotherium, &c.—Harlan, on serpentine—D. Sharpe, on the vicinity of Lisbon—Lyell, on fossil snails from Canada—Whitaker, on cubic fossils—Smith, on tertiary and post-tertiary strata, basin of the Clyde—Forchhammer, on changes of level in Denmark—Martin, on mammoth remains from the British Channel—Sedgwick, on added layers in coal-strata, and the lower Ouse, forest of Dean—Bowerbank, on London and plastic clays; and on cubic fossils in chalk, &c.—Bowman, on Silurian rocks, Abergavenny—Richardson, on Hornby Bay—list of presents.—Price to the fellows, £1 1s. 6d.; the public £1 6s. 6d. sold at the apartments of the society, Somerset House.

Just published, with twelve plates and wood cuts, in 12mo., price 3s.

A DESCRIPTION of a series of GEOLOGICAL MODELS, illustrating the nature of stratification, valleys of denudation, coal seams, faults, or dislocations of the strata, intersection of mineral veins, &c.

By T. SOWERBY, F.G.S., &c., &c.
John Weale, 59, High Holborn.

VALE OF NEATH AND SOUTH WALES BREWERY.

Capital £12,000, in 600 shares of £20 each.
Dividends payable 10th of April and 10th of October.

DIRECTORS.

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|---|---|
| Joseph Stancomb, Esq. | George Walters, Esq. |
| William Brandon, Esq. | John White Little, Esq. |
| W. H. Buckland, Esq. | Joseph Boobet, Esq. |

The increasing demand for the Vale of Neath ale and porter, both for home consumption and export, induces the directors to make a further issue of shares, in addition to the present paid up capital of £12,000.

Subscribers for shares may either participate in the current profits rateably with the original shareholders, or take a fixed and limited dividend of 6 per cent. per annum. The option to be signified at the time of subscribing. The amount of £12 per share may be paid promptly, or by three equal instalments, at intervals of three months. Subscribers will be entitled to benefit of the dividends from the time of payment.

Information relative to the trade and premises of the concern will be furnished by the directors, of the Vale of Neath Brewery, Neath, Glamorganshire, to whom applications for shares may be made, or to Mr. O. W. W. Mason, 62, Basinghall-street, London.

ASPHALTE BITUMEN WORK, Waterloo Saw-Mills, east of the Square Shot Tower, Commercial road, Lambeth.—JAMES HARVEY having executed works of considerable extent on the Blackwall Railway, Teignmouth Bridge, Devon, Northern and Eastern Railway, Finch's cane granaries, Rotherhithe, and at many other places, to all of which he can refer parties as to the efficacy, and his capability of laying the same down, begs to inform the public generally, that he is now prepared to give ESTIMATES for a fixed sum for any quantity of work. James Harvey begs to mention, that the pavements, terraces, gardenwalks, barn floors, stabling, warehouse floors, and covering of arches, to prevent the percolation of water; and J. Harvey further begs to add, that flooring of this kind can be laid down at a cheaper rate than any other material, and will, with proper treatment, last a considerable time longer. Drain and timber cases by machinery—also, blocks for street paving.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonials in its usefulness with which the Manufacturers have been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S., &c., &c.—

"I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great usefulness of the Safety Fuse; and I am quite willing that you should employ my name to all evidence of this."

Manufactured and sold by the Patentees, SICKFORD, SMITH, and DAVEY, Camborne, Cornwall.

THE INVENTORS' ADVOCATE, AND JOURNAL OF INDUSTRY, a WEEKLY EDITION and FOREIGN MISCELLANY of SCIENCE, INVENTIONS, MANUFACTURES, and ARTS, is the most useful and comprehensive work of the kind published. It contains the scientific intelligence of the week; correct information on railways and steam navigation; list of patents granted and expired; specifications and descriptions of new inventions; reports of scientific meetings, and original papers on manufactures and the arts; with a variety of information interesting to inventors and patentees. It is not only a journal of interest for the day, but forms a standard work of reference, valuable to persons engaged in scientific, manufacturing, and mechanical pursuits. Vols. I. II. and III. (each bound, and already published, and the 4th Vol. is now in course of publication).

The Inventors' Almanack, price 1s., postage free, is published annually, by the proprietors, at the publication office, 26, Ivy Street, Strand, London.

## LAW INTELLIGENCE.

### TRAFFIC IN RAILWAY SHARES.

COURT OF CHANCERY—JULY 23.

DUNCUFT *v.* ALBRECHT.—*Mr.* RICHARDS and *Mr.* MYLNE supported an appeal from an order of the Vice-Chancellor overruling a demurrer in this case. The bill was filed for specific performance of a contract for the sale of fifty shares in the South-Western Railway, to which the defendant demurred, on the ground that there was no written contract between him and the plaintiff, and that the plaintiff had not called on the defendant by a sufficient notice to produce the shares; and also, that the transaction being a gambling in shares, was one in which this court would not interfere. The learned counsel cited several cases in support of the demurrer on these grounds.

The LORD CHANCELLOR did not think it necessary to hear the other side. The bill alleged that the agreement had been reduced to writing, and, therefore, he could not allow a demurrer on the ground that there was no contract. The demurrer was overruled.

## SPECIFICATIONS OF RECENT PATENTS.

**George Child**, merchant, Lower Thames-street, London, for improvements in the manufacture of bricks and tiles, part of which improvements are applicable to compressing peat and other materials, July 6.—The clay is first prepared in a washing-machine, and is then made into bricks in a brick-machine. The bricks are then pressed in a wheel, as the same revolves on its axis, by means of a screw, and after being pressed they fall on a web strap beneath the wheel, and are carried away by the attendant. The patentee likewise shows a wedged mould for artificial stone, an artificial stone-press, an expanded brick-mould, and a "two-brick press," in which two bricks are pressed at the same time in separate moulds, and are removed from the same by two plugs, which, being caused to rise by means of a screw, enter two openings in the bottom of the moulds, and push the bricks out. The above is nearly the whole of the description of the invention furnished by the patentee, who makes no claim, nor yet mentions what his improvements are, but leaves the same to the imagination of the reader, not even a sectional view being given of the washing and brick machines, nor is the nature of their contents described.

**John Swindells**, manufacturing chemist, Manchester, for certain improvements in the manufacture of artificial stone, cement, stucco, and other similar compositions, July 6.—This invention consists in rendering the residual matters produced in various chemical operations available in the manufacture of artificial stone, cement, stucco, &c.

The material used in the manufacture of lithic, or stone cement, or artificial stone, is the residuum arising from the manufacture of the chromates and bichromates of potash and soda, or other chromic salts, which residuum consists of oxide of iron, silicate of alumina, lime, sulphate of lime, and undecomposed chromate of iron. If the lime contained in it does not amount to 50 per cent., lime is added until it contains that quantity, and if the silicate of alumina contained in it does not amount to 30 per cent., it is increased to that amount. These materials are thoroughly mixed and calcined in a furnace or kiln in a similar manner to the burning of limestone for the production of lime; after which, the compound is reduced to a fine powder, and packed in tight casks ready for use. To make Roman cement, the residuum produced in the manufacture of potash, soda, or British alkali, commonly called soda ash, is employed. To this residuum silicate of alumina, or any other common clay, is added, in the proportions above-mentioned—viz., 30 per cent. of the silicate to as much of the residuum as contains 50 per cent. of lime; an addition is also made of 20 per cent. of oxide of iron, which is obtained from the residuum matters produced in making sulphuric acid from the bisulphuret of iron, or the same quantity of oxide of manganese and iron, the oxide of manganese being obtained from the residual salts of manganese, produced in the manufacture of chloride of lime or other chlorine salts. These materials are thoroughly mixed together and calcined in the manner above-mentioned, and when cold they are reduced to a fine powder, and packed in tight casks ready for use.

Claim first.—The use of the residuum produced in the manufacture of chromic salts for the manufacture of lithic, or stone cement, or artificial stone.

Claim second.—The use of the residual matters produced in the manufacture of potash, soda, British alkali or soda ash, commonly called vat waste, and the residual oxide of iron, produced in the manufacture of sulphuric acid from the bisulphurets of iron, commonly called pyrites or mundic.

Claim third.—The use of the residual oxide of manganese, produced in the manufacture of chloride of lime or other chlorine salts, for the purpose of manufacturing stucco or Roman cement.

**Henry Adcock**, civil engineer, Winstanley, for improvements in the means or apparatus for condensing, concentrating, and evaporating aeriform and other fluids, June 30.—Within an air-tight chamber a spiral wheel revolves, the axis of which is hollow, and is supported in three steps or bearings, that end which turns in the back step being closed. One step is affixed to the back of the chamber; the second is secured in an air-tight manner in the front of it; the third is placed a short distance in front of the latter, and supports the extremity of the hollow axis, as well as the end of a stationary horizontal pipe, which is in contact with it, and communicating at its other end with the lower part of a vertical pipe, the upper end of which terminates in a chamber above, from which a smaller pipe descends into the air-tight chamber. Three grooves are formed in the second and third steps, with three corresponding grooves in the exterior of the hollow axle, which are filled with tallow or oil and tallow, so as to prevent the escape of the fluids to be condensed, and to do away with the greater part of the friction. The first chamber is filled up to the centre of the hollow axle with water, or other condensing fluid, while the aeriform substances to be condensed are introduced into the upper part of the chamber, and occupy the space above the water. The spiral wheel being caused to revolve, during one-half of its revolution takes in the fluid to be condensed, and during the other half, the water, or other condensing agent. Whatever is taken in by the wheel passes towards the centre, where it enters the hollow axis, and as the capacity of the spirals decreases from the periphery some portion of the water flows back from the several spirals, so that the aeriform or other fluids are exposed to continuous showers of water as it moves towards the centre, and when it reaches that point it passes through, or mixes with, a solid mass of water which flows along the horizontal pipe, and up the vertical pipe to the upper chamber, from whence it descends into the air-tight chamber again. By re-working (either with or without pressure), the water or other condensing agent, with further quantities of the fluid to be condensed, concentration to a certain extent is effected, which may be still further extended by the application of heat.

The same apparatus is also used for evaporating; the liquid to be evaporated occupying the place of the condensing agent, and a current of heated air being admitted to the upper part of the chamber, so that the wheel alternately takes in the liquid to be evaporated and the heated air.

When a clammy or glutinous fluid is to be evaporated, it is placed in long shallow troughs fitted with air-tight covers, which leave a small space between the surface of the fluid and the covers; a current of heated air is passed through this space over the surface of the fluid, thereby effecting a rapid evaporization, which may be still further expedited by applying fires beneath the troughs.

CHALK AND FLINT.—It is the beautiful and philosophic remark of the admirable Lavater, that we cannot put up a pebble by the way-side but we find all nature in connection with it. It is a fact which, respectedly a short time since by some observers more acute or more intelligent than the rest, is now fully confirmed by more recent investigations, that the whole mass of chalk is derived from animal substances. It is found, for instance, that if we grate a piece of chalk and expose the particles thus obtained to the microscope, we find them all to be of organic origin; they are small shells, corals, or zoophytes, or fragments of these objects, while a still closer inspection proves that the remaining mass is largely made up of infusoria creatures, too minute for the unassisted eye to discover. The fact, that masses of this rock, which are often 1000 or 1200 feet in thickness, are thus singularly composed, constitutes one of the most striking discoveries of modern science, particularly when we add that the flint imbedded in the chalk is conceived to be similarly composed, and, like the chalk itself, literally to have been once alive. Nor is the phenomenon confined to the chalk; the vast beds of the oolite formation which yields the Portland stone, the Bath stone, the freestone, and most of the materials for the builder's use, are found to be similarly constituted, and it is a singular and instructive fact, that we are actually building our palaces and temples from the skeletons of creatures which existed in the primeval seas of our earth, and which, after having fulfilled all the functions of life, have been destined by the Almighty, after the extinction of their existence, to furnish the materials for the solid strata of the earth, and the use and enjoyment of mankind.

ARMSTRONG.—M. Delcevez has written to the French Academy of Sciences, to state that on the 12th ultimo, between one and two in the afternoon, the sky being without a cloud, an explosion was heard at Châteauneuf, in the Loiret, louder than several pieces of artillery firing together; he suspected that this must have proceeded from an aerolite, and going to a spot where the noise had been loudest, found there the marks of where the aerolite had struck the earth, as well as several fragments of such a body lying about. Most of these fragments were very small, but one weighed 30 lbs. and another 6 lbs.

## ON THE EXPLOSION OF STEAM-BOILERS.

BY JOSIAH PARKES, C.E.

[The following communication has been addressed to the *Gateshead Observer*, in consequence of some erroneous allusion having been made by the Editor of that Journal to Mr. Parkes, in commenting on the proceedings at an inquest held on the sufferers from a recent steam-boiler explosion in the neighbourhood of Gateshead.]

It is quite true that I have been collecting, for some time past, all the facts within my reach which can throw light on the causes of these lamentable occurrences, but I have no "work forthcoming on the subject," as intimated, nor even one in a state of preparation for the press. As opinions may have been attributed to me which I do not entertain, or which require modification according to each case, no apology can be necessary for requesting your insertion of the following views of the probable origin of the explosion at Derwent Crook:—It must be admitted, too, that it is the bounden duty of every man to contribute whatever knowledge he may possess to diminish the number of these afflicting accidents; and I believe every member of the profession to which I belong equally deplores, with myself, that such events are possible, and regrets that, either through the imperfection of science, or vicious practice, their recurrence should be so frequent.

These disasters cannot all be referred to one cause, nor will one remedy reach all the diseases of steam-boilers, which are sometimes insidious. The rupture and projection of boilers are often accompanied by phenomena very difficult to explain; but it appears to me, from the evidence given on the inquest in question, that the internal state of the boiler, as manifested by the quantity of deposit ejected, is quite sufficient to account for its dislocation. The process by which this result is effected, appears to me to be as follows:—When incrustation takes place on the part of a boiler exposed to heat, it very commonly happens that a large piece of it will break up. The water then obtains instant access to an over-heated plate—the consequence is, the sudden production of a mass of steam of an extraordinary elastic force. The instantaneousness—meaning the infinitely short time—in which this steam is developed, causes it to exert a sudden and powerful action, resembling percussion, upon the adjacent and superincumbent water and steam, which force is transmitted to all parts of the boiler. If the boiler be not strong enough to resist the shock, it is burst through, or rent asunder; and a boiler more than strong enough to resist the ordinary working pressure, may be far below proof against the sudden exertion of such a force as that alluded to. Scarcely any imaginable number of safety valves would suffice to ease a boiler of this momentary pressure, which closely resembles the explosion of gunpowder; and when a boiler is weak, or out of repair (as testified by leakiness and other symptoms), or when such a boiler is distended nearly to the bursting point, a very slight sudden action, or blow, would disrupt it.

I have referred to a boiler incrusted; but a similar sudden disengagement of steam, in large volume, and of high elasticity, will result on the disturbance of a covering of mud; nor is it requisite that a boiler should be red-hot to generate such steam. A temperature far below redness suffices, so that nothing can be detected from the subsequent appearance of the plates. When a fire is slackened under a boiler, deposition of the suspended earthy matter takes place. It should then be blown out; if not, the mass becomes thickened (though not, perhaps, indurated); it prevents free access of water to the plates; and an outbreak of flame, from even a previously smothered low fire, happening when a boiler is thickly coated with mud, might produce the calamity which occurred at Derwent Crook. Fortunately, all the circumstances rarely occur at one and the same time, or explosions would take place daily. One phenomenon almost always accompanies steam-boiler explosions—viz., suddenness. Warning is rarely given, and if so, too short for safety; and it has seemed to me reasonable to conclude, that a sudden and violent effect can only be produced by a sudden and violent cause. Doubtless, a vessel may be ruptured by a continuous and increasing pressure, exceeding the resisting strength of the vessel, or of any part of it; and steam and water will be expelled, scalding and injuring persons within reach. But such is not the character of violent explosions. Instances are common of the solid boiler plate being torn, and even slit all round, as clean and true as if done by the chisel or shears, and masses of enormous weight have been projected to a great height or distance. These results have occurred when the simple pressure of the steam, immediately previous, was known, and must be acknowledged to have been far inadequate to the effect. Instances (two, I think) have occurred in your neighbourhood, in which boilers have been burst by boys swaying up and down on a valve lever, when steam was blowing off—an action which would give repeated shocks to the boiler, as is proved by the mercury of steam-gauges having been all expelled on suddenly closing a safety valve. Explosions have also taken place when steam is suddenly let upon a piston to start an engine.

Following out this idea, my friend, Dr. Charles Schafhaeutl, a learned chemist, and practically well acquainted with steam-boilers, has illustrated the action of an instantaneously developed force in a very ingenious manner. He places a cylinder, open at both ends, vertically, and applies a valve of the same area both to the top and bottom, which will rise with the force of an ounce weight. Water is then poured in, to the depth of about one half the cylinder, the weight of which on the bottom valve is balanced. On dropping into the water a small piece of the chloride of potassium an explosion ensues, which opens the bottom valve and expels water, before it lifts the upper valve, where the gas escapes. The same occurs when a small quantity of gunpowder is fired below the water, and it matters not whether the explosion takes place close beneath the surface of the water, or nearer the bottom—in every case, the force is propagated more quickly to the bottom than to the top. He therefore concludes, that, on the production of a sudden and extraordinary force within a boiler, the bottom would be attacked, and perhaps yield, before relief could be obtained by the safety valves.

I am able to confirm the correctness of this inference from my own experience. I have seen the bottom of iron salt pans, when heated red hot by the adhesion of scale and salt, forced downwards, and much twisted, when the scale has been broken, and the brine came upon the metal, but I never saw flame, or any indication of an inflammable gas. An immense body of brine and steam is projected upwards on these occasions, with which every salt maker is well acquainted; and if the pan were covered, instead of being open, I am satisfied that its bottom or top would give way before an equilibrium of pressure could take place, or safety valves afford relief. The effect thus visibly produced in open vessels, under no pressure, may equally occur, unseen, and with disastrous energy, in close boilers.

This reasoning applies to the case in question, and to boilers similarly circumstanced, but I wish to guard against its being understood as illustrating all cases of explosion. I have witnessed several, investigated many, and have had other instances communicated to me, the causes of which are more obscure, and require a different solution. There are, however, a few facts which I consider to be so well established, of general application, and of such importance, that they cannot be too widely made known, particularly in the coal districts.

I believe I am in possession of every case of explosion which has taken place in Cornwall during the last thirty years, where the highest pressures in Britain are used. They do not exceed six or eight, and it consists with my own knowledge, that more disasters have occurred to boilers, and more human lives have been sacrificed, during the present year, in each of the respective districts round Newcastle and Wednesbury, than in Cornwall during the whole of the above period. In Cornwall, too, mineral water, of a very deleterious quality, is generally obliged to be used. This relative security has arisen from the combination of two causes:—1. The price of coals.—2. The form of boiler.

The high price of fuel has induced in Cornwall a system of careful management, which can scarcely be surpassed, and an economy in the generation of steam unequalled, resulting chiefly from the large extent of surface exposed to absorb the heat, and from the slow combustion of the fuel. By reason of the form of boiler, all the sediment settles upon the part exposed to the least heat—to a temperature, in fact, very far below that of flame. The cylindric figure and small diameter of these boilers render them well adapted to resist the force of from 40 lbs. to 60 lbs. per square inch, commonly employed.

In the coal districts, on the contrary, the opposite qualities will be found in prevail. Fuel is cheap, its use unrestricted; boilers are of disproportionate dimensions for the engine, as regards surface; and though generally cylindric, the fire is made beneath them, and all the sediment is compelled to fall precisely on the part exposed to the most intense heat. The firemen are not encouraged to raise steam with the least possible consumption of fuel, they are supplied with it *ad libitum*; and he is reputed the best man who can squeeze the most steam out of the least possible quantity of boiler surface. Explosions are the consequence. The fault is not in the fireman, nor in the boiler-maker, nor in the engineer—it is in the system. The engineer would advise an abundant boiler surface, and one boiler always out of work at every establishment, to insure frequent and perfect cleansing; the boiler-maker would be glad to make boilers in any number, and of any form; the firemen may be instructed and encouraged to act with vigilance and skill, and the owner would find his account in it; for, though he may have cheap coals, he may raise dear steam, from waste of fuel and wear and tear of boilers. Let the system be changed, and explosions would be diminished 99 per cent. The occupation of the philosopher would be gone, except in considering and providing against some of those occasional accidents, which, from their rarity, and the phenomena attending them, denote special causes to have operated.

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This letter is already too long, but it would be an omission not to add, that the choice of iron is most important in the construction of a safe boiler. The so-called improvements in the manufacture of iron appear not to have improved its quality for boiler uses. I am of opinion that rolled iron is quite unfit for the parts of a boiler exposed to the furnace and flame. Its character becomes changed by heat, and, after a time, it will no longer resist the same tensile strain as at first. It may not be generally known that tilted plates alone can be used for salt-pans, in making fine salt, which requires rapid ebullition. The plates over the fires are very frequently heated red-hot, and become, from expansion and contraction, twisted and bent into most irregular shapes; but, after years of severe use, the nature of the iron is as good as when received from the hammer. Cut out plates are used by the panmiths to make rivets and nails. Rolled plates are soon burnt, and rendered useless; and when cut out of the pans are good for nothing. A friend of mine, in Staffordshire, an iron master, has boilers now in action, of the haystack shape, thirty years old, which have cost but little in repairs. The bottoms of all his boilers are of hammered iron. Each boiler is worked but a week, and then thoroughly cleansed. This gentleman has cheap coals (3*s.* per ton); he has also cheap boilers and cheap steam. No such thing as a rupture, or explosion, has ever occurred in his numerous establishments.

*Great College street, Westminster.*

## WHITELAW AND STIRRAT'S WATER-MILL.

Our two preceding articles* on the application of water power lead us to the consideration of the improved construction of Messrs. Whitelaw and Stirrat's water-mill, by which it is asserted a greater per centage of available power is obtained than by any other application of the gravitating force of water. The inventors have published a description of their mill, and of its mode of action, which enables us to understand more correctly the manner in which it is their intention to apply the pressure of a column of water to produce direct action in turning the apparatus as the water issues forth. The principle of their invention is similar to that of M. Passot, alluded to in our last Number, and they profess to make their mill operate entirely by the direct action of the water, and not by reaction—an effect which the commissioners appointed to examine M. Passot's *turbine* declared to be "practically impossible."

We shall first give a brief description of Messrs. Whitelaw and Stirrat's mill, and then proceed to examine how far they have succeeded in realising this asserted impossibility.

The water in this mill, instead of passing down a hollow revolving shaft, as in Barker's mill, is conducted through a pipe to the bottom of a solid shaft, to which the hollow arms are attached. A water-tight joint prevents the water from escaping at the junction, at the same time that it permits the upright shaft and the hollow to turn round. The object of this arrangement is to remove the weight of the revolving shaft filled with water. The chief variation of the machine, however, consists in the shape of the arms, which, instead of being straight, as in Barker's mill, and bent at right angles to form the jet pipes, are curved, and taper gradually towards the jet, which is finally bent at a tangent to the circle described by the revolution of the arms. There is an arrangement of springs at the openings of the jet pipes contrived to regulate the flow of water according to the work to be performed. This regulating action operates on the same principle as the governor of a steam-engine, and closes the apertures by centrifugal action whenever the revolutions of the wheel become too rapid.

The inventors contend, like M. Passot, that the motion of their wheel is produced by the direct action of the effluent water on the curved arms, and not by reaction. The direction in which the pressure-power of the water at the bottom of the pipe is exerted, is, of course, in straight lines from the centre, and the object which the inventors seem to have had principally in view, was to give the hollow horizontal arms such a curve, that when the wheel was revolving with a given velocity, the flow of water from the centre to the jet pipe should be in a straight line. The pressure of the water flowing from the centre, acting against the curved inner surfaces of the arms in its passage through them produces, it is alleged, a direct effort in turning the wheel, entirely independent of reaction, and that when the velocity is properly adjusted to the flow of water there is no reactive power, nor any centrifugal tendency in the effluent water.

We have been thus particular in describing the construction of the wheel, with which most of our readers are probably acquainted, and in stating the manner in which the inventors conceive the action of it is produced for the purpose of questioning its alleged mode of operating. It appears to us that the inventors have not clearly considered the principles on which the action of their wheel depends, and as it is of importance that these should be well understood, or, at least, that error should not be inculcated as truth in a matter of such great practical importance, we think it right to bring the subject forward for reconsideration.

In the leading principle that a direct action is obtained by giving the arms a curved form, we perfectly agree. The extent of this action will, however, we contend, be limited to the area of the hollow arm at its insertion into the shaft, and be proportioned to the velocity of the effluent current at that point. It appears that the inventors conceive the direct action is continued along the whole curvature of the arms; but it seems clear to us that as soon as the water passes the first bend of the curve, its serviceable direct action in turning the wheel ceases, and that in the deflection of its course, caused by striking against that curved surface, the reaction of one side the hollow arm counterbalances the action on the other.

The assertion that when the motion of the wheel and the flow of water are properly adjusted the liquid is forced by the pressure in a straight line from the centre, and then acts with greatest effect, requires, we think, but little consideration to expose its incorrectness. It must be at once evident, that if the flow of water were in a straight line directly from the centre, the whole reaction would be against the centre of the shaft, and consequently that no direction of the power to communicate rotary motion would be obtained. Neither would there be any direct action of the water under such circumstances, for the necessary effect of the water's action against a solid body must be to produce a corresponding reaction on the fluid; and if the current flow in a straight line from the centre, it shows that there has been no action in a direction different from that of the radius in which it moves.

Another error into which the inventors have fallen in stating the advantages of their wheel is, that a saving of power arises, as compared with Barker's mill, from not having to carry the weight of water in the arms constantly round, as the efflux is from the centre directly outwards to the jet. In the first place, it may be questioned whether there would be any loss of power by having heavier arms, further than is occasioned by increase of friction; and, in the second place, it is still more questionable whether the asserted diminution of weight really exists, for as the arms are in either case supposed to be always full and always revolving, the weight to be carried round must be equal, provided their capacity be the same.

The power obtained from a fall of water by Messrs. Whitelaw and Stirrat's mill is stated to exceed by at least 5 per cent. that obtained from the best-constructed overshot wheel. The amount of power from the latter, after the speed for ordinary purposes is obtained, is not more than 70 per cent. of the whole power of the water employed; whilst the water-mill yields 75 per cent. This advantage is, however, derived rather from the direct application of the motion obtained, without the necessity of intervening machinery, than from superiority in the mode of applying the gravitating force of water. The machine possesses other advantages arising from the uniformity and rapidity of its motion, the comparative cheapness of its construction, the small space it occupies, and the diminution of friction. All these are important considerations in practice, and will tend materially to extend the use of this water-mill, but so far as the amount of power actually derived from the fall of water is concerned, independently of the superior adaptation of the motion produced, it appears that little or no advantage is gained by Messrs. Whitelaw and Stirrat's improvement on Barker's mill. We conceive that in their attempt to produce a direct action by curved arms, they have carried the application of the principle too far; and that the friction of the water pressing uselessly against the curved arms in a great portion of its passage through them, tends to diminish the power of the machine. In several parts of its construction, indeed, we conceive the inventors have proceeded on erroneous principles, and however great may be the practical improvements they have effected in water-wheels by their contrivance, there appears to us to be still an open field for further approximation to the *maximum* of working power that may be obtained from a fall of water.—*Inventors' Advocate.*

RAILROADS IN FRANCE.—The new railroad between Bordeaux and Teste will open a market for vast productions of timber and firewood, which has been hitherto limited by the expense of transport, but which may now be conveyed at a moderate rate by the Canal des Landes and the railway. Teste, which is rapidly increasing, may now procure lime for building at a low rate, which it has hitherto been obliged to procure from Nantes, at 40*f.* the cubic metre. The journey between Bordeaux and Teste, by Bouviers, which required three tedious days in former times, and only a few days ago occupied at least twelve hours, may now be made in an hour and a half, and at much less expense. A line of steamers is about to be established between Teste and Bilbao, and thus a passage between those two ports may be made in one day. These, and other benefits too numerous to detail, must greatly promote the prosperity of Bordeaux and Teste, the Basin of the Garonne, and the Landes.

METEORIC STONE.—The meteoric stone which fell a few days ago at Chateau-Renard, has the appearance of granite of a light grey colour. Interspersed in the mass are bright grains of metallic iron, which distinguish it from the stones of our globe, in which metallic iron has never been found, probably on account of the rapidity with which this metal passes to a state of oxidation. The surface of the stone is covered with a crust, caused by the heat arising from the great rate of its passage to the earth, and its contact with our atmosphere.—*Moniteur Parisien.*

* See *Mining Journal*, Nos. 347 and 348.

## PROCEEDINGS OF PUBLIC COMPANIES.

### DUKE OF CORNWALL'S HARBOUR, AND LAUNCESTON AND VICTORIA RAILWAY COMPANY.

The half-yearly general meeting of the proprietors of this company was held at the London Tavern, on Thursday, the 22d inst.

JOHN RAMSBOTTOM, Esq., M.P., in the chair.

The advertisement convening the meeting having been read, the minutes of the last half-yearly general meeting, and those of the two subsequent adjournments, were read and confirmed.

The CHAIRMAN stated, that in consequence of the award not having yet been made by the arbitrator, to whom all matters in dispute between the company and Mr. Ross had been referred, it would be necessary that another meeting of the shareholders should take place, and which should be specially convened as soon as circumstances would admit.

The usual vote of thanks having been passed to the chairman for his services, the meeting separated.

### YORK AND NORTH MIDLAND RAILWAY.

A special meeting of the proprietors of shares in this company was held in the directors' room, at the railway station, in Tanner-row, on Monday last, when a draft of the proposed lease of the Leeds and Selby Railway was submitted for their approval.

Mr. Alderman HUDSON in the chair.

After Mr. BAKER had read the notice convening the meeting, Mr. NEWTON read the lease, from which it appeared that the North Midland Railway Company are to pay a yearly rent of 17,000*l.* to the Leeds and Selby Railway Company for their railway. After a little conversation, it was resolved that the draft of the proposed lease which had been read be approved by the meeting, subject to the settlement by counsel in matters of form, and that the directors be authorised to take the necessary steps for completing the lease.

### ST. KATHARINE DOCK COMPANY.

The half-yearly general meeting of the proprietors of this company was held at the Dock-house, Tower-hill, on Tuesday, the 20th inst.

The DEPUTY-CHAIRMAN in the chair.

The proceedings were opened by Sir JOHN HALL (the secretary), who read the advertisement convening the meeting, after which

The CHAIRMAN observed that the proprietors were called together for the purpose of agreeing to the dividend on the capital stock for the half-year ending 30th ult., and also to proceed to the ballot for the election of their directors to serve for the ensuing year to July, 1842. The result of the business carried on during the six months ending the 30th June, was, under all circumstances, highly satisfactory, and quite as favourable as could have been anticipated, inasmuch as the increase in the arrivals of shipping compared with the returns of the corresponding period of the year 1840, amounted to forty-five vessels, and 9562 tons. The chief increase in the arrivals during the past five months had been from South America—amounting to eleven vessels. From the East Indies and the Mauritius nine ships, of 4297 tons; from the West Indies eight, of 989 tons; and from Sydney and Van Diemen's Land six vessels, of 1252 tons. From the outports of the United Kingdom the increase was three vessels of 479 tons. The greatest decrease was as regarded Spain, the decline being seven vessels, but whose tonnage was only 992 tons. The general business of the docks had increased, and it was to be borne in mind that this was in the face of a falling off in the China trade, in consequence of our difficulties with the government at Pekin. The increase in the quantity of goods in the company's warehouses was 6000 tons, as compared with the returns to the end of June, 1840. The proprietors had the more reason to be satisfied with the general results of the business of their docks, inasmuch as, taking the returns for the whole port of London, there was shown to be a decrease of 191 ships and 13,048 tons, which fell, however, entirely upon foreign vessels, for the British vessels entered had increased in number by seventy-three, of 23,250 tons, during the six months ending the 5th of July, 1841, as compared with the corresponding period of last year. The total arrivals at the St. Katharine's Docks were, from the 1st of January to the 30th of June, 270, and tonnage 66,283 tons; of this number there were eight vessels of 1966 tons from Russia, two from Prussia, Germany, and Holland of 145 tons, thirteen from Sydney and Van Diemen's Land of 3422 tons, forty-one from the East Indies and the Mauritius of 17,433 tons, twenty from the West Indies of 3331 tons, thirty-two from North America of 15,360 tons, eighteen from South America of 4210 tons, twenty-nine from Africa and the Cape of Good Hope of 4228 tons, fifty from the Mediterranean of 7673 tons, nineteen from Spain of 2272 tons, fifteen from France of 2592 tons, and twenty-three from the ports of the United Kingdom of 3681 tons. Taking the port of London altogether the arrivals in the six months ending the 5th of July, were 1910 British vessels of 397,000 tons, and 730 foreign vessels of 111,700 tons, or altogether 2640 ships of 508,700 tons. The chairman then briefly adverted to the difficulty attending the management of the affairs so important to the company, and to the necessity of having parties in a direction who, from their high connection, might add to its character and usefulness.

A PROPRIETOR, in moving a vote of thanks to the chairman and the directors for their zeal and attention, said that they must evidently have made great exertions to have secured so material an increase to the trade of the docks, and his co-proprietors had every reason to be satisfied.—The vote was then seconded, and carried unanimously.—The DEPUTY-CHAIRMAN returned thanks.

After the ballot for twenty-one directors, including the names of Messrs. George Forbes and William Gladstone, who were not in the last direction, had been taken, and the dividend agreed to, the meeting broke up.

### COMMERCIAL BANK OF LONDON.

A meeting of the shareholders of this company was held on the premises of the company, on Monday, the 19th inst., for the purpose of receiving the report of the directors on the progress and prospects of that concern.

E. S. CAYLEY, Esq., M.P., in the chair.

The advertisement convening the meeting having been read, the report from the directors was submitted, from which it appeared that of the 2000 shares of 100*l.* each, eventually to form the capital of the bank, 400 have been issued to the present proprietors, representing a subscribed capital of 400,000*l.* It had been the aim of the directors to proportion the paid-up capital to the business of the bank, the call had, therefore, been delayed until an increase of business provided the means of its profitable employment.

The accounts showed that, after deducting current expenses and bad and doubtful debts, a balance of 5658*l.* 2s. 7d. would be left at the disposal of the meeting, from which the directors proposed to declare a dividend of 4 per cent. on the paid up capital, to be calculated from the opening of the bank, and from the day of the payment of the respective calls. This would amount to 2684*l.* 14s. 3d., leaving a balance for rebate of interest upon bills not due, and to commence the formation of a guarantee fund of 2973*l.* 8s. 4d.

The directors who went out of office by virtue of the provisions of the Deed of Settlement (H. Barnewall, Esq., E. S. Cayley, Esq., M.P., J. A. Dunginss, Esq., and J. Hopkinson, Esq.), being eligible for re-election, offered themselves as candidates, and were re-elected accordingly.

[The result seems to have been satisfactory, as, although the establishment has been but a short time in operation, the directors were enabled, after setting aside an adequate amount for the rebate of interest on bills discounted, and for the ordinary contingencies, to declare a dividend of 4 per cent. on the paid-up capital. Under the cautious system of management pursued by the directory, the affairs of the company have been kept well together. The amount of cash in hand and capital invested in Government securities exceeds, by a few thousand pounds, the sum subscribed by the proprietary. The proportion embarked in discounts and loans to customers, on securities, has been limited to, and is, in fact, somewhat under, the balance due to the depositors. The institution is not in the enjoyment of what may be called a large business for a joint stock bank, but it appears to have open to it a fair field of enterprise, and, by adhering to the legitimate course of banking, it may, in the process of time, take rank among the best of its class.]

### AUSTRALASIAN BANK.

Return of the aggregate average amount of the liabilities and assets of the Bank of Australasia, as well in England as in the Australasian Colonies, from the 14th day of April, 1840, to the 13th day of October, 1840—published pursuant to the Royal Charter of Incorporation:—

| | |
|---|---|
| LIABILITIES. | |
| Bills in circulation, not bearing interest | £709,695 17 5 |
| Notes in circulation, not bearing interest | 66,[illegible] 14 7 |
| Bills and notes in circulation, bearing interest | —— |
| Balances due to other banks | —— |
| Cash deposited, not bearing interest | —— |
| Cash deposited, bearing interest | 691,876 9 4 |
| Total liabilities of the corporation | £[illegible],011 11 4 |
| ASSETS. | |
| Coin and bullion | £140,570 14 4 |
| Landed property of the corporation | 9,147 13 4 |
| Bills of other banks | —— |
| Balances due from other banks | —— |
| Debts due to the corporation, including notes, bills, and Government securities | 1,270,481 0 3 |
| Total assets of the corporation | £[illegible] 11 3 |

WM. BROWN, Chairman.
*Bank of Australasia, London, July 13.* WM. BUCHANAN, Sec.

### LONDON CEMETERY COMPANY.

A general meeting of the proprietors to the above company was held at their offices, 22, Moorgate-street, on Monday, the 19th inst. We are unable to give a report of the proceedings, as our reporter, to promoting him-self for admission, was refused.

## MINING CORRESPONDENCE.

### ENGLISH MINES.

#### HOLMBUSH MINING COMPANY.

*July* 19.—I beg leave to inform you that in the 110 fathom level south we have intersected a branch about two inches wide, producing ore, and expect in the course of a fortnight that the main part of the lode will be met with. In the winze below the 100 fathom level the lode is twenty inches wide, of mundic and spar, intermixed with ore. In the 100 fathom level east from James's winze no lode taken down. The rise and stopes in the back of this level are still very productive, the lode in the former being eighteen inches wide, and worth 27*l.* per fathom—the lode in the latter is twenty inches wide, and worth about 40*l.* per fathom. In the ninety fathom level west no alteration. The lode in the winze, below this level, continues about eighteen inches wide, and worth 26*l.* per fathom. The lode in the stopes, in the back of this level, is four inches wide, and worth about 20*l.* per fathom. The eighty fathom level east is still without alteration. In the rise, in back of this level, the ground is more favourable. The lode in the eastern stopes, in the back of the eighty fathom level, is ten inches wide, and worth 12*l.* per fathom. The lode in the western stopes, in back of ditto, is still about two and a half feet wide, and worth 35*l.* per fathom. In the seventy fathom level stopes the lode is sixteen inches wide, and worth 20*l.* per fathom. In the seventy fathom level east, on the Flap-jack lode, no alteration worthy of remark. The rise in the back of the sixty-two fathom level, against Hitchins's shaft, and the rise in back of ditto, against Bray's shaft, continues in moderate ground. The tribute pitches are still looking favourable.

F. PHILLIPS.

#### TRETOIL MINING COMPANY.

*July* 19.—The lode in the engine shaft is eighteen inches wide, producing ore—improving. The lode in the forty fathom level, west of engine-shaft, is eighteen inches wide, tribute ground. The lode in the forty fathom level, east of engine-shaft, is one foot wide, tribute ground. The lode in the thirty fathom level, east of Williams's shaft, is fifteen inches wide, good tribute ground. The lode in the rise, in the back of this level, is one foot wide, tribute ground. The lode in the twenty fathom level, west of Johns's shaft, on Johns's lode, is one foot wide, tribute ground. The lode in the twenty fathom level, east of Williams's shaft, on the north part, is fifteen inches wide, producing ore. The south part of the lode, at the same level, is six inches wide, tribute ground. The part we are driving on of the Slide-park lode, at the ten fathom level, west of Johns's shaft, is two feet wide, very good tribute ground. Mayles's lode, at the adit level, is at present unproductive.

H. WILLIAMS. J. MORCOM.

#### WEST WHEAL JEWEL MINING ASSOCIATION.

*July* 19.—The ground in Buckingham's engine-shaft continues the same as last reported; we expect to sink this shaft to the seventy fathom level by the end of this month. The Fifty-seven East, on South Branch—Lode worth 5*l.* per fathom. The fifty-seven east, on Wheal Jewel lode, is improved, and now worth 15*l.* per fathom. The fifty-seven west, on this lode, is worth 10*l.* per fathom. The south adit shaft is sinking below the fifty-seven fathom level in very favourable ground. The thirty west, on Tolcarne lode, is worth 15*l.* per fathom. No lode taken down in any other part of the mine in the past week.

S. LEAN.

#### CORNUBIAN MINING COMPANY.

*July* 17.—The engine-shaft is now sunk below the fifty fathom level three fathoms, and the ground is easy for sinking. The fifty fathom level, driving west of the engine-shaft, on Chiverton lode, is looking very encouraging, the lode being one foot wide, and producing good work. At the forty fathom level, going west, we have also a very promising level in this place; we consider the Chiverton and north lodes are together, they are two and a half feet wide, and yielding fair quality work; our principal object in prosecuting this mine is to extend the levels east and west on the lodes, and, in the meantime, you are aware we are sinking the engine-shaft with all speed to a sixty fathom level. Two other shafts are sinking from the surface, one to the east, on the extremity of the old workings, called Clifford shaft, and the other to the west (Murray's), the latter was sat at our last setting (a fortnight ago), and the former is sunk from surface about twenty fathoms, passing through a favourable channel of ground, price 50s. per fathom; we are decidedly of opinion, when these shafts are communicated with the different levels, which will require a few months to accomplish, and the said levels extended on the lodes, there is every reason to suppose this concern will answer to expectation; but, as has been always stated, time must be given to throw the mine open, having been before our commencement worked under much disadvantage and greatly out of order. In reference to the tribute department, I am happy to say is looking much better than at the beginning of the month, and, judging from present prospects, we shall have a better sampling next than the last, the account of which I forwarded you on the 15th inst.

R. ROWE.

#### TRELEIGH CONSOLS MINING COMPANY.

*July* 17.—The levels and pitches at Christoe continue as they have been. Good Fortune shaft is down to the forty-four fathom level, and we have commenced driving east and west, but have not taken down the lode since last reported; we have every reason to believe it continues its full size and improved quality. The pitches here are also considerably improved.

WILLIAM SINCOCK.

#### UNITED HILLS MINING COMPANY.

*July* 19.—Adit End West—Lode eighteen inches wide, with stones of ore. Twenty Fathom Level—Lode three and a half feet wide, ore of fair quality. Thirty Fathom Level—Lode four and a half feet wide, two feet good ore. Thirty-six Fathom Level—In the eastern winze, at this level, the lode is three feet wide, eighteen inches on the north part. Western Winze—Lode two and a half feet wide, coarse in quality. Forty Fathom Level—In the eastern end of this level the lode is three and a half feet wide, eighteen inches good ore. Forty-six Fathom Level—Lode two feet wide, producing but a small quantity of ore. Sixty Fathom Level—In driving east, at this level, the lode is four feet wide, producing some good ore, with a promising appearance. Western End—Lode four feet wide, very throughout, but coarse in quality. Fifty Fathom Level—The lode in the eastern end of this level is three and a half feet wide, eighteen inches on the north part ore of fair quality.

T. GARLAND.

#### REDMOOR CONSOLIDATED MINING COMPANY.

*July* 19.—We hope to complete the sinking the north engine-shaft to a sixty fathom level by the end of the present month; the ground is favourable for driving. At the fifty fathom level cross-cut we have driven about seventeen fathoms south of the engine-shaft. At the forty fathom level, going east, on the copper lode, we have no improvement to notice since last report, neither have we intersected the lead lode, but believe we are not far from that object. At the thirty fathom level south, on the lead lode, we find the lode to be from eight to ten inches wide, yielding a little ore—ground hard. At Hurl Down cross-cut, we hope, from various indications, that we are approaching near the Holmbush lode; a few strems driving will probably determine this point. We have no improvement to notice in the tribute department.

JOHN PETER.

#### TAMAR SILVER-LEAD MINING COMPANY.

*July* 19.—The prospects in the 135 fathom level, driving north and south, and also in the 125 fathom level, are just the same as have been stated for some time; the lode in each of the ends is producing a small quantity of ores, but not rich. In the 115 fathom level the lode is about eighteen inches wide, carrying small branches of rich silver-lead ores. In the 100 end the lode is greatly improved, it is now three feet big, yielding good work. In the ninety five end the lode is from two to three feet wide, producing good saving work. In the eighty-five fathom level, the lode is about nine inches in width, ores. In the forty-five fathom level the lode is one foot wide, yielding some ores in a promising strata. On Monday last, the 12th inst., we sold two parcels of silver-lead ores—viz., No. 1, forty tons to B. Somers, Esq., at 19*l.* 5s. per ton; No. 2, thirteen tons to Messrs. R. and W. Mitchell at 19*l.* 10s. per ton.

MARK JAMES.

#### GREAT WHEAL CHARLOTTE MINING COMPANY.

*July* 19.—In sending you my report of this mine, I beg to say the lode in the eighty-two fathom level west from shaft is four feet wide, with some good stones of ore. We are getting down a quantity of water from the seventy-two fathom level, east and west. The same level, driving north from shaft, continues much the same—hard, and poor at present, but we have not seen the north part of the lode as yet; we expect a large part of this lode still to the north of the end. The seventy-two fathom level west is rather poor, yielding about 10*l.* worth per fathom. The lode in a winze sinking under this level west from shaft is four feet wide, and will turn out five tons per fathom, worth about 5*l.* per ton; this winze is down two fathoms under the said level. The lode in the stopes, back of this level west from shaft, is seven feet wide, worth 30*l.* per fathom. The lode in the stopes, back of this level west, is three feet wide, and turns out four tons per fathom, worth about 5*l.* per ton. The stope in the bottom of the sixty-two fathom level west from shaft is worth from 10*l.* to 20*l.* per fathom. The lode in the stopes, in the bottom of this level, further west, is eight feet wide, and will produce about five tons per fathom, worth 4*l.* 10s. per ton. We expect the whim-engine to work on Saturday next.

S. TREVITHAN.

### FOREIGN MINES.

#### REAL DEL MONTE MINING COMPANY.

*Mineral del Monte, May* 19.—At the Biscaina the mining of ores has somewhat increased of late, as, owing to the arrangement by which some of the western water has been carried to San Cayetano, very little hindrance has lately occurred in washing the ore inhouse. Sacramento, upon the whole, has a little improved, and as more ground has been opened, we were enabled to raise from thence, last week, about 200 cargas of ore; and if no important failure shall take place, we may, I think, calculate upon getting about that quantity weekly until the vein is cut in the bottom cross-cut, when, if the ore be found to hold downward, we may expect the raising to be increased. The water, as already reported, has gradually been sinking in Acosta and Rosario, so that there remain at present in the bottom of those mines only from four to five varas. The best of the ore is still inaccessible, but there having appeared above the water some ores of a quality suitable for the patio, we have already commenced raising it, and are getting from these places about seventy cargas per week. From this source, and from the increase at the other points already mentioned, I believe the mines are at present producing ores sufficient to employ all our hacienda power; I hope, therefore, to be enabled to advise you by the packet, now daily expected, that all the arrastras and stamping-mills at Regla and Sanchez have again resumed working. I have the satisfaction to state, that the silver produce of the present month will probably be about fifty-three bars, or five bars above the number estimated; this will again help our funds, and I, therefore, purpose, if nothing unfavourable should occur in the interim, to make a remittance of about 1000*l.* by the next packet for the purchase of quicksilver, by which a great advantage will be derived. I have the satisfaction to state, that the cylinder, and other parts of our new large steam-engine, arrived here safely on the 13th inst. Considering the very great weight of the cylinder, the badness of the roads at various points, the numerous difficulties attending the conveyance of so heavy a load, and that the detention has only been about six days more than on ordinary occasions, it cannot but be deemed a very successful journey. Mr. Morrison has exerted himself very much on this occasion, and this favourable result must, in a great degree, be attributed to his judicious arrangements. The waggons and harness are again nearly repaired, and one new waggon added, and the whole will start again for Vera Cruz, to bring up some more of the machinery, to-morrow. All the articles belonging to the new engine, adapted for mule carriage, have already arrived here, at the low freight of $13½ per carga, already mentioned.

## MINING NOTICES.

[Under this head we purpose collecting such paragraphs as may appear in the provincial and other Journals, having reference to discoveries and improvements in mining operations at home and abroad. It is hardly necessary to observe, that we must not be considered to admit the correctness of the information conveyed, which, in too many instances, requires cautious investigation—the sanguine expectations of parties in some instances, and the want of honesty in others, throwing a degree of responsibility on a Journal in giving publicity to reports, which we do not intend taking upon ourselves.]

SIBERIAN MINES.—An imperial Ukase has been issued at St. Petersburgh, conferring upon all persons who will go into the more distant parts of Siberia, in search of gold mines, the privilege of working them for their own profit during twelve years, after which, they are to revert to the Government.—*Galignani.*

COALS IN SOUTH AMERICA.—TALCAHUANA, CHILI, MARCH 5.—Mr. Wheelwright, the indefatigable projector and part owner of the steam-ships on this coast and Peru, has been fortunate in discovering coal in this immediate neighbourhood, and at Valdavia south of this. It is found in great abundance, and resembles the "cannel" coal of England. It has been tried on a trip to Valparaiso and back, and found to answer the purpose, with a consumption of about 30 per cent. more than the coal used in English steamers, to perform the same distance in the same time. I think a less consumption will take place in raising the same quantity of steam, by an alteration of the furnaces. The impression is, that the coal will be found to be more suitable as they work the mine. I am told that this coal can be placed on board the steamers at a cost of about $2 50c. per ton! Whereas, coal brought from England would cost the company $10 the ton. Ere long, it will not be a very tedious journey from England, or France, or the United States, to the city of Lima in Peru, or the city of St. Jago in Chili *viâ* Jamaica, Chagres, and the isthmus of Panama.—*Extract of a letter in a Boston paper.*

## MINE ACCIDENTS.

*Explosion of Fire-damp in Messrs. Grundy's pits, near Bolton.*—An explosion of carburetted hydrogen gas took place at the works of Messrs. Grundy, Breightmet, near Bolton, on Tuesday week. Two men, Samuel Haslam and David Partington, were employed in cutting to get to a point where the water entered, when, contrary to their expectation, they got into some old works, and, having a candle with them, the gas ignited and exploded. Haslam, who is a young man, was burned in a dreadful manner, and died on Thursday night last; Partington is in a pitiable state, but may recover.

*Fatal Accident.*—An inquest was held at the Balcarres Arms, in the Scholes, on Thursday, on the body of Samuel Paton, a collier, who was killed in a coal-pit belonging to Mr. Blundell, on the previous day. John Paton, brother of the unfortunate man, stated that he and his brother only were working in the pit, getting out the coal. The roof was of bad stuff, and about a ton of metal fell down upon them. The edge of the metal struck witness upon the shoulder, and broke his collar bone; his brother was covered by the metal, by which he was crushed to death. Witness got from beneath, and the metal was afterwards removed, when his brother was taken out, but life was extinct.

*North Roskear.*—On Friday week a man named Webster was killed at North Roskear Mine, through the giving way of a "collar;" he fell nearly sixty fathoms, into a place in which there was water to the depth of ten fathoms, and when taken up was quite dead.

## THE COAL TRADE.

A meeting of the shipowners of Sunderland (convened by the Shipowners' Society) was held on Saturday, the 17th inst., in the Exchange-buildings, for the purpose of taking into consideration the present unparalleled depressed state of the coal trade; there was a very numerous attendance of gentlemen, amongst whom were many of the principal shipowners of the port.

Mr. C. WILSON (an influential merchant and shipowner) in the chair.

Mr. H. MOON, in moving the first resolution, stated, that although he had been a shipowner forty years, he never remembered so many vessels laid up, so many seamen out of employment, and freights in the coal trade so ruinously low. He, therefore, moved—"That in the present depressed state of the coal trade, ships, instead of making remunerating profits, are suffering a certain loss, which will shortly affect the shipowners to a very serious, if not ruinous, extent."

Mr. R. SCURFIELD seconded the motion. He said, that the average freight now obtained was about 6s. 6d. per ton, which would not pay the expenses of sailing, without any reference to insurance or profit.

Mr. H. TANNER moved the next resolution—"That it is incumbent on the shipowner to endeavour, by every means in his power, to avert the consequences which must follow so alarming a state of things, and it being the opinion of this meeting that not less than 7s. 6d. per ton freight to London from this time to the 1st of October next (the selling being restricted to two days for ships under sixteen keels, and three days for ships exceeding that burthen) will afford a fair and reasonable return for capital, the meeting strongly recommend that shipowners do refrain from loading, unless that amount, or an equivalent, is obtained."

Mr. W. BELL (a shipowner and extensive coalowner) observed, that the resolution would be ineffective, as they could not bind the shipowners even of their own port, still less those of the Tyne and the Tees, not to sail their vessels at a less freightage than 7s. 6d. per ton. He assured them that *three fourths of the coalowners were now losing money*, owing to the great number of small collieries which had lately been brought into operation. He knew that the quantity shipped from the Wear, the Tyne, and the Tees, for London, was not greater than at the corresponding period of last year, and he was unable to account for the depression which now prevailed. But he suggested that a deputation of shipowners should wait upon the coalowners, and confer with them on the subject, with a view to promote the general benefit of the trade.

Mr. G. THOMPSON having seconded the motion, a long discussion arose—some urging that the cause of the distress was the high price of coals; others, that it was caused by the additional quantity now shipped from Wales; others wished for "a corn act," similar to that in operation on the Tyne; but all agreed that the present amount of freightage was utterly inadequate to maintain the shipping engaged in the trade.

Mr. JOHNSTONE urged that the arrangement would be broken next day if the shipowners did not bind themselves by a written agreement, with heavy penalties, not to load their vessels with coals under 7s. 6d. per ton, and proposed a motion to that effect, which was seconded by Mr. W. L. Dawson, who alluded to the combination of the coalowners as a proof of the advantage which would attend a similar union on the part of the shipowners. Several gentlemen declared they would not sign any written agreement, and also that they would not lay their vessels up if they could not obtain the price they required. The amendment was negatived by a large majority, and the motion adopted.

Mr. SOUTHERN then proposed, that a deputation should wait on the committee of coalowners to communicate the distressed state of the shipping engaged in the coal trade, and to request a remedy, either by lowering the price of coals, or the adoption of some other plan.—This was unanimously agreed to, and the meeting separated.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—From an advertisement in another column, it will be seen that the one hundred and first exhibition of this society will take place at Falmouth on the 10th of August, and a large assemblage of visitors are expected to be present, as there will be a considerable number of competitors for the different prizes.

IN CHANCERY.
WILLIAM RADCLIFF, ESQ., AND OTHERS, Plaintiffs;
MARY LEIGd AND ELEANOR WARD, Defendants.

PURSUANT to my report made in this cause, bearing date the 3d day of July instant, under an order made in this cause, bearing date the 21st day of April, 1841, and which report stands duly confirmed, I will on Saturday, the 7th day of August next, at my office, on the Inns Quay, in the city of Dublin, at One o'clock in the afternoon, set up, and LET by PUBLIC CANT, to the highest and fairest bidder, for the term of twenty-one years, the MINES and MINERALS in the LANDS of KILMACRA and BOLAGH, situate, lying, and being in the county of Wicklow, mentioned in the leases of the 14th February, 1746, and 13th November, 1761, containing, in the whole, 270 acres, be the same more or less, as now in the occupation or possession of the representatives of Mark Richardson and John Revell. WILLIAM HENN.

Dated this 9th day of July, 1841.

The mines in said lands of Kilmacra and Bolagh are in the immediate neighbourhood of Cronebane and Connorree Mines, in said county, and are supposed to be a continuation of said last mentioned mines, which are now worked, and producing large and ample profits.

The said mines and minerals will be let, subject to the usual clauses and covenants in mining leases of that description contained; and in particular, that the lessee or lessees shall, immediately after the execution of the lease, begin to search for, and duly proceed in the working of said mines, and continue during the term of the lease, as well in winter as in summer (unless prevented by some inevitable accident), with such a competent number of workmen as shall be specified at the time of the letting, in the best and most effectual manner, according to the usual course and practice of carrying on and working mines with effect, for the space of 150 days at least in each and every year during said term, under penalty of forfeiture of the lease.

For further particulars apply to James Ball, Esq., the receiver, No. 28, Clare-street, Dublin.

## PRICES OF MINING SHARES.

| Shares. | BRITISH MINES. | Paid. | Price |
|---|---|---|---|
| 500 | Anglesey | 5 | — |
| 4,000 | Bisspe Bridge | 5 | 1¼ 7 |
| 20,000 | British Iron | 50 | 65dis |
| 8,000 | Blaenavon | 45 | 20 |
| 120 | Brewer | — | 80 |
| 79 | Budnick | — | 120 |
| 1,800 | Carn Brea | — | 140 |
| 100 | Copper Bottom | 41 | 30 |
| 2,000 | Cornubian Lead Co. | 1¼ | 1 |
| 6,000 | Cornwall Great United | 10½ | 1 |
| 1,000 | Cuddra | 10 | ¼ |
| 512 | Cook's Kitchen | — | 70 |
| 117 | Charlestown | — | 470 |
| 5,000 | Dartmoor Consols | 5 | 2 |
| 10,000 | Durham County Coal Co. | 27 | — |
| 2,000 | Dancecombe | — | 3¾ |
| 6,000 | De Dunstanville | — | — |
| 1,000 | Duffield | 20 | 11 |
| 1,200 | East Mulberry Hills | 3½ | 1 |
| 256 | East Pool | — | 440 |
| 4,000 | East Tretoil | ¾ | ¾ |
| 5,200 | Great Wh. Prosper | ¾ | 6¾ |
| 4,000 | Great Wh. Charlotte | 5 | 1¼ |
| 10,000 | Hibernian | 12½ | 3¾ |
| 1,000 | Holmbush | 14 | 41 |
| 2,000 | Isle of Sark (Guernsey) | 11 | 18 |
| 20,000 | Mining Co. of Ireland | 7 | 15½ |
| 6,000 | Polberon | 4 | 1 |
| 2,000 | Polberon Consols | 10 | ¾ |
| 2,000 | Retallan | — | ¼ |
| 5,000 | Redmoor Consolidated | 5 | 2 |
| 19,000 | Rhymney Iron | 50 | 25 |
| 100 | Rosewall Hill | 180 | 170 |
| 800 | South Towan | 10 | 1¼ |
| 4,000 | Tregonlan | 4½ | ¾ |
| 4,000 | Treleigh Consols | 4½ | 1¼ |
| 4,500 | Tamar Consols | 3 | 2 |
| 6,000 | Tin Croft | 6¾ | 3 |
| 4,300 | Tretoil | 1¼ | 7¾ |
| 1,000 | Trevidgia | 5 | 6 |
| 170 | Treviskey and Barrier | — | 170 |
| 96 | Tresavean | — | 1200 |
| 120 | Trethellan | — | 150 |
| 4,000 | United Hills | 5 | 6¾ |
| 6,000 | Wicklow Copper | 5 | 13¾ |
| 3,845 | West Wheal Jewel | 9 | 5¾ |
| 1,000 | Wheal Julia | — | 6¾ |
| 128 | Wheal Kitty | — | 60 |

FOREIGN MINES.

| | | | |
|---|---|---|---|
| 5,000 | Alten Mining Company | 12½ | 8 |
| 10,000 | Anglo Mexican Co. | 100 | ¼ |
| 3,374 | Do. Subscription | 75 | 1 |
| 2,000 | Botanco | 150 | 5 |
| | Ditto Scrip | 15 | 5 |
| 10,000 | Brazilian Imperial | 20 | 3 |
| 10,000 | Bolivar | 20 | ¼ |
| 10,000 | Ditto Scrip | 10 | 2 |
| 10,000 | Cata Branca, Brazilian Co. | 6¼ | 7½ |
| 10,000 | Conceigao, Brazilian Co. | 4 | — |
| 12,000 | Cobre Copper Company | 40 | 39¾ |
| 8,500 | Columbian Co. regis. | 55 | 2 |
| 10,000 | Copiapo Mining Co. | 131 | 9 |
| 20,000 | General Mining Asso. | 18 | 2 |
| 5,551 | Mexican Company | 50 | 2 |
| 12,000 | Mocambas and Cocaes | 25 | 2 |
| 14,502 | Real del Monte, regis. | 634 | 7½ |
| | Do. unregistered | — | 2¾ |
| | Ditto Loan Notes | 150 | 160 |
| 7,000 | Royal Santia.o | 10 | 20 |
| 11,000 | St. John d'el Rey | 144 | 2½ |
| 40,000 | United Mexican | 40 | 2 |
| | Blast Scrip, addl capital | 5 | 2 |
| | Real New Scrip | 5 | 3½ |

## PUBLIC COMPANIES.

MEETINGS.

| | | | |
|---|---|---|---|
| South Metropolitan Cemetry Co. | Bridge House, Southwark | July 26 | 11. |
| London Cemetchouse Company | Guildhall Coffee-house | 27 | 1. |
| Clarence Railway Company | George and Vulture Tavern | 27 | 1. |
| United Mexican Mining Association | London Tavern | 28 | 1. |
| Bastenne and Ganjac Bitumen Co. | 2, St. Mildred's-court | 28 | 12-1. |
| Phœnix Gas light & Coke Company | Bridge House Hotel, Southwark | 28 | 12-1. |
| Captain Mining Company | 73, Austinfriars | 29 | 1. |
| West Cork Mining Company | George and Vulture Tavern | 29 | 1. |
| Dauncecombe Mining Company | 26, Birchin-lane | 29 | 2. |
| St. John del Rey Mining Company | 8, Tokenhouse yard | 30 | 2. |
| Stockton and Hartlepool Railway | Officers, Stockton | 31 | 12. |
| Polberon Tin and Copper Mining Co. | 44, Finsbury-square | Aug. 3 | 2. |
| London and County Banking Co. | 21, Lombard-street | 5 | 2. |
| Brighton Gas Company | George and Vulture Tavern | 5 | 1. |
| Brymbo Iron and Coal Company | Waterloo-place | 6 | 1. |
| London and Brighton Railway | London Tavern | 9 | 1. |
| Hibernian Mining Company | 6, Austinfriars | 9 | 1. |
| Eastern Counties Railway | Station, Shoreditch | 12 | 1. |
| London and Birmingham Railway | Euston Hotel | 13 | 11-12 |
| Redmore Consolidated Mining Co. | George and Vulture Tavern | 17 | 2. |
| Cumbmartin and N. D. von Mines | At the Mine | 19 | 12. |

CALLS.

| | | | |
|---|---|---|---|
| North Midland Railway | 5l. | July 30. | Office, 6, Warnford-court. |
| Hungerford and Lambeth Suspension Foot Bridge Company | 2½. | Aug. 2. | Offices. |
| W. of London & Westm. Cemetery | 5l. | 3. | As former calls. |
| European Gas Company | 2l. | 4. | Lachrake and Co. |
| West Wheal Jewel Mining Ass'n | 10s. | 7. | London and Westminster Bk. |
| London & South Western R'way | 1½l. | 10. | As former calls. |
| South Consolidated Mining Co. | 5s. | 19. | Brown and Co., Leeds. |
| De Dunstanville Mining Co. | 10s. | 20. | 6, Birchin lane. |
| Cornubian Mining Company | 10s. | 26. | Union Bank. |
| British Colonial Bank | 5l. | Oct. 12. | 15, St. Swithin's-lane. |

DIVIDENDS.

| | | | |
|---|---|---|---|
| Mining Company of Ireland | 10 per cent. | Offices, Dublin | Sept. 1. |
| Wicklow Copper Mine Company | 15 per cent.* | Offices, London & Dublin | Aug. 16. |
| Peninsular and Oriental Steam | 3½ per cent. | Offices | —. |
| Kennett and Avon Canal | 1½ | Barnett, Hoare, and Co. | —. |
| European Gas Company | | 39, Finsbury circus | —. |

* For the last half year.

## NOTICES TO CORRESPONDENTS.

Newfoundland Coal Mining Company.—We have received a great number of communications on the affairs of this company, but, in the expectation of receiving an authenticated report of the proceedings at the Norwich meeting, have deferred their insertion. From the determined, and, as yet, successful, efforts of the directors to "keep all their affairs secret," we have been unable to obtain any statement, upon sufficient authority, to place before our readers, but we have reason to believe their "secrets" will not keep long. All the B's are deposed, and are making some pretty rough demands for re-payments; there is also a sort of an "investigation" going on, though it appears to be but a very feeble and silent one—the great Stephenson was consulted, and recommended Mr. M. Forster (no relation, he it observed, to the other gentleman bearing that respectable name), who is understood to be diving into some of the mysteries. Meantime, we shall be stumbling upon some of the facts shortly, when we shall not fail in giving our readers the benefit.


# THE MINING JOURNAL,
## Railway and Commercial Gazette.

LONDON, JULY 24, 1841.


Having on several former occasions alluded to the great importance of the sulphur ore trade, with reference to its influence on the interests of the labouring classes of the county of Wicklow, and the vast importance of the continued application of the capital and enterprise embarked in the mines, we now return to the subject more than ever impressed with its importance, from the great changes to which the sulphur trade has been of late subjected from the caprice of his Sicilian Majesty, from the injurious effects of which on the manufacturing interest of this country no protection can in future be looked for after the treatment already received at his hands.

That this is a subject requiring legislative enactments we think it will not be difficult to prove, and we hope that in matters so materially affecting the mining interest of the county of Wicklow or other districts in which pyrites are raised, the recently elected members of the several districts will be watchful of any measures by which the mining interest is likely to be depreciated, and be forward in the proposition of those which may be more immediately called for as affording protection to the employer in the application of his capital, and as securing a continuation of employment in districts where great distress must arise to a large mass of labourers and others from a cessation of employment.

The circumstances under which the sulphur ore, or pyrites, trade in this country was brought into existence, have been too often and too recently before the public to require recapitulation; whilst the high duty fixed by his Sicilian Majesty on the sulphur from his mines, combined with the tenacity with which the prices were maintained on the part of his agents in Great Britain—a measure apparently adopted with the view to secure the means of payment of an indemnity to the French house, with which the Sicilian Government had entered into a contract for the supply of the whole of its produce, and which, it will be remembered, was broken up by the interference of Great Britain, at a time when it was supposed that such a monopoly would have been attended with great injury to the manufactures of the country, but which, fortunately, the application of pyrites, and the abundance in which it is found, has converted into a great benefit instead of a disadvantage, and to which it should now be the object of legislative interference to give permanence.

We are informed, on good authority, that in the arrangement entered into with Taix and Co., on the breaking up of that monopoly, that some 60,000 or 70,000 tons of sulphur were thrown on the hands of the Neapolitan Government; the price of the article, it will be remembered, in consequence of the monopoly, while it existed, was doubled—having been raised from 7*l.* to 14*l.* per ton; the quantity imported, even under such circumstances, being steadily on the increase. On the interference of Great Britain, whereby the monopoly was put down, his Volcanic Majesty thought fit to exact a duty of 4*l* 10s. per ton, being more than one-third of the market price of that article. The effect of this, it has been already stated, brought pyrites into general use, and, in the county of Wicklow alone, affords the means of employment to upwards of 2000 persons; the present quantity raised in this district alone, is about 6500 tons a-month. To effect any real and substantial benefit to the miner, it is imperative on our Government to impose on foreign sulphur an import or protective duty, for, although the Neapolitan Government have signified their intention, some six months hence, to reduce the present export duty nearly two-thirds, or from 4*l.* 10s. to 1*l.* 15s. per ton, yet there is no security to the manufacturer or to the miner, but that, when the present stock of sulphur is consumed—our mines closed, and the miner reduced to poverty—then will the export duty be trebled, to the incalculable injury of Great Britain and her mines.

To our knowledge, many thousands have been expended in extending the workings of mines in the county Wicklow; new shafts have been sunk, engines erected, and works undertaken, with the sole purpose of raising sulphur ores, and protecting the manufacturer, by rendering him an article superior in quality, and at a price which would enable him to furnish it to the consumer at least at one-third less than it has borne for some years past.

The nature of the late operation of the transfer of the stock of sulphur into private hands, has brought about a sudden change in the marketable value of the article, for with forced sales, and with the design of causing the suspension of our home mines, the price has been reduced to under 6*l.* per ton, being a fall of 50 per cent.; it must, then, be apparent, that, to admit this state of things to continue, is to inflict a heavy loss, and great act of injustice, on the miner, by whom alone has the change been brought about, and but for whose capital, industry, and perseverance, the manufacturer might still be subjected to the high charges, while he is now protected, and will continue to be so, if that Parliament does only its duty.

It is unnecessary to enter further into detail on the present occasion, suffice it that we direct the attention of members returned for mineral districts, they have been supported in their return by the interest and votes of those whose interests and property it now becomes the duty of those legislators to protect in return.

We have so repeatedly had occasion to notice the Patent Wire Rope, manufactured by Mr. Andrew Smith, that little else remains for us, in again directing attention to its advantages (both as to weight, strength, and cost), than merely to state those facts that come directly under our notice.

During the past week the wire rope has been subjected to tests, compared with hempen rope, on the London and Blackwall Railway, the results of which are as follow:—The wire rope measured three and three-quarter inches, and had been at work on the Blackwall Railway nearly two months, running the whole length of the line; it broke with sixteen tons, and stretched twelve inches. The hemp rope measured seven and five-eighths inches, and had been at work nearly three months (but only run three-fourths of the length of the line), and broke at about four or five tons. At the time of breaking, the machine was loaded at six tons—the same weight as when some previous experiments were made, the result of which we shall endeavour to obtain.

A most satisfactory statement has also been forwarded us from the Royal Polberon Consols Mines, St. Agnes, where the rope has been introduced, and exceeded the most sanguine expectations; it has been used for drawing with a fire-whim and with horse-whims for about twelve months, and it has now little apparent wear. Its lightness seems, we are informed, admirably adapted to horse-whims, and it had been remarked by a driver, a short time since, "that his horses could haul a full kibble with the wire rope as easily as they could an empty one with the cordage."

The serious charges brought against Alderman Humphery, at the London and Blackwall Railway meeting, to which we referred in our last, remain, we regret to say, unrefuted; whether this arises from inability, or from the cause assigned—that of absence from London—we know not; for the present, however, we refrain from further commenting on the disgraceful conduct attributed to the alderman, in the hope that, on his arrival from Ireland, the "assertions" may be met, and in a more satisfactory manner than we are led at present to expect.

The annexed correspondence, in reference to the affair, has appeared during the week:—

## ALDERMAN HUMPHERY AND THE BLACKWALL RAILWAY.

TO THE EDITOR OF THE MORNING CHRONICLE.

Sir,—The malicious and cowardly attack which has been made upon Mr. Alderman Humphery, in the shape of a resolution of a meeting of the Blackwall Railway Company, on Friday last, in which that gentleman is charged with trafficking in shares, to the detriment of the property of the company, of which he was a director, for his own individual profit, has induced me to entreat that the public will not condemn Mr. Humphery in his absence upon an *ex parte* statement, and without affording him an opportunity of replying to it. Mr. Humphery left London on Friday for Dublin, and will not return until the early part of next week, when he will, I have no doubt, be able to give a decided refutation to this malevolent attack. In the mean time I beg to hand you an extract of a letter from Mr. Humphery, to his clerk, Mr. Hare, in which he says—"I shall answer the accusation against me when I return, and prove it a great falsehood."

I remain, Sir, your obedient servant,
20, *Dean-street, Southwark, July* 21. George R. Corner.

Sir,—In your paper of this morning's date is a letter signed by Mr. George R. Corner, in which he alludes to the resolution passed at the meeting of the Blackwall Railway Company, regarding Mr. Alderman Humphery, M.P., and designates it as "the malicious and cowardly attack which has been made on that person." Mr. Corner further informs the public, that Mr. Humphery left London for Dublin the same evening on which his conduct was discussed at the above meeting, and concludes his letter by an extract from one written by Mr. Humphery to his clerk, in which he states—"When I return I shall answer the accusation against me, and prove it a great falsehood."

I moved the resolution in question, and I did so from information given to the meeting by the chairman of the directors, who distinctly affirmed before the assembled body of proprietors, that Mr. Humphery's resignation as a director in the Blackwall Railway Company took place in consequence of his being discovered to have *sold a large amount of shares, which he did not possess*, and which had depreciated the property of the shareholders.

If Mr. Humphery can prove the accusation to be a great "falsehood," and that the information given to the meeting by the chairman was a misrepresentation, there is no satisfaction or apology which can be required from a gentleman which I shall not most willingly make to him for the step which I considered it a duty to take under the circumstances, and the communication from the chairman to the shareholders.

But, Sir, I shall take no further notice of any letters which may come from individuals who undertake to comment or offer opinions on a charge of so grave and serious a nature; and I must be permitted to say, that I cannot conceive any engagement of sufficient importance to justify Mr. Humphery in leaving London until he had refuted and cleared himself from the imputation under which he now stands, if it be in his power to do so.

1, *Chesham-place, July* 22. George Rennie, Jun.

## MINERAL PRODUCE OF FRANCE IN 1839.

In the administration of mines, as in almost every other department, there is great dilatoriness—in fact, no advance whatever has been made. Thus we are not informed of the proceedings of the year 1839 till June, 1841. It must be the general opinion that this is taking things a little too leisurely. We ought to add, that in order to proceed more quickly, and to abridge the labour, the administration of mines has reproduced for the last three years certain statements in which not a single figure has been changed.

Before enumerating the details, we think it right to make a statement of the progressive improvement of the mines in France, with which the productive power of the country is more closely connected than with any other. The value of all the mineral products amounted

| | |
|---|---|
| In 1834 to | francs 306,403,416 |
| 1836 | 330,345,498 |
| 1837 | 364,871,574 |
| 1838 | 363,402,126 |
| 1839 | 365,631,310 |
| Excess of 1839 over 1838 | 2,229,574 |

Thus it will be perceived, that in 1839 no progress was made. It must not be concluded from this that there was any want of power to produce, or inadequacy in the supply of ore in our forges, but only that the crisis from which all manufactories have lately suffered continued to be felt in 1839 in our mining districts. But from the aggregate let us enter into the different branches of mineral production, in order to trace the different changes that they underwent in 1839.

The following statements represent the relative importance of our principal coal basins. The following (in metrical quintals) was their production in 1839:—

| | | | |
|---|---|---|---|
| Alhet | 636,000 | Loire | 11,169,000 |
| Avegnon | 1,757,000 | Nont | 7,497,000 |
| Cantal | 538,000 | Sadne and Loire | 2,912,000 |
| Gard | 1,566,000 | | |

There are 232 coal mines, 171 of which are worked, the remainder are not in operation. There are 552 coal pits and 476 coal quarries open to the day. The steam-engines employed are 361, of which 17,970 are at the bottom of the mines, and 6406 on the surface. The average price of the metrical quintal has been 95 centimes, and that of the hectolitre 76 centimes. The number of lignite pits is eighty-eight, of which forty-eight are worked and forty are not worked. There are 1374 workmen employed in these pits. The average price of lignite is 97 c. the metrical quintal, and 77 c. the hectolitre. There are forty-four mines of anthracite, of which twenty-seven are worked and seventeen not worked. In these there are upwards of 1216 workmen employed.

The average price of anthracite is from 1 f. 52 c. the metrical quintal, and 1 f. 22 c. the hectolitre. The aggregate produce is

| | q. m. | value. |
|---|---|---|
| Coal | 28,121,561 | 26,777,579 frs. |
| Lignite | 903,651 | 910,384 |
| Anthracite | 80,000 | 4,267,247 |
| | 29,048,613 | 29,096,501 |

The amount of the imports and exports of coal in 1839 was as follows, in metrical quintals:—

| IMPORTS. | | EXPORTS. | |
|---|---|---|---|
| From Belgium | 7,109,193 | To Belgium | 548,245 |
| Great Britain | 3,293,279 | Sardinia | 35,129 |
| Prussia and Bavaria | 1,565,136 | Switzerland | 31,531 |
| Other countries | 4,031 | Algeria | 14,986 |
| | | Other countries | 96,309 |
| | 12,167,449 | | 726,574 |

The general consumption of coal in France is, therefore, 41,897,537 metrical quintals. The number of turf pits in France 3732, of which 2327 are worked. The quantity of turf obtained amounts to 4,184,000 metrical quintals, the value of which is nearly four millions of francs.

The Department of Mines has stated the number of workmen employed at the turf pits to be 41,703. The difficulty experienced in procuring accurate statements, with respect to the working of the turf pits in the communes, leaves some uncertainty as to the number of workmen engaged in that labour, and the value and quantity of the turf which they supply. In a great many situations the communal turf pits are only worked during some days in the summer, and the turf which is extracted is exclusively appropriated to the use of the inhabitants who have extracted it, or have caused it to be extracted by their wives and children. In some departments, on the contrary, the working of turf is carried on very extensively, and the fuel supplies many important manufactories—such as sugar-houses, distilleries, dye-houses, steam-boilers, limekilns, &c. Turf is likewise used in some forges, but the quantity consumed in the manufacture of iron appears to be rather diminished than increased.—*Mon. Industriel.*

## GEOLOGICAL MODELS.

Mr. T. Sopwith, F.G.S. (with whose name our readers must generally be acquainted, several papers emanating from his pen having appeared in our columns), has just finished a series of geological models, illustrating the nature of stratification, valleys of denudation, succession of coal seams in the Newcastle coal-field, the effects produced by "faults," or dislocations of the strata, intersection of mineral veins, &c., accompanied by a small work, explanatory of the several subjects illustrated, which may either be purchased separate, or as an accompaniment to the models.

This series of models are peculiarly adapted for the objects intended by the ingenious author—that of affording a familiar explanation of various phenomena, a knowledge of which is essential to the study of geology, as connected with practical mining; and the easy style in which the description of the several geological and mining features is written (being divested of technicalities and abstruse speculations), will render the work particularly serviceable to the owners of mineral property, as well as to speculators in mines, in imparting many details not generally understood, while, to the geological student, it will become an indispensable requisite, as affording an elementary view of some of the leading circumstances connected with the relation of geology to practical mining.

## ON THE MANUFACTURE OF IRON.

[FROM A CORRESPONDENT.]

The principal difference between the metal contained in iron ores of various species consists in the metal, when in the shape of good cast-iron, being either red-short or cold-short—that is, more brittle when red-hot than when cold, or more brittle when cold than when hot; for the forge purposes, the red-short is the best. The cold-short quality is generally believed to be occasioned by a very minute quantity of phosphorus contained in the iron. By ascertaining this fact respecting ores, if necessary, the difficulty may be greatly obviated by mixing it with ores of the opposite quality, whereby, with proper management, the produce may be rendered neutral. When the metal is intended for forge purposes, and required very tough, it should be ascertained whether the ore contains any manganese, and in what proportion, as nothing tends to render apparently very good iron more brittle than the presence, to any amount, of this metal. If it exceeds 1 or 1½ per cent., ore perfectly free should be mingled with it in various proportions—somewhere about half and half; nothing is better than either one of the hæmatites. The quantity of fuel and the quantity of flux required, in proportion to the ore, depends on the character of the ores; all argillaceous ores, which generally contain a little sulphur, should be calcined before they are thrown into the furnace; the general shape of these calciners is that of a limekiln. A fire having been made at the bottom, the ironstone and small coal is thrown on in alternate strata, and the whole kindles; it is drawn out as it is thought to be calcined, faster or slower. This process greatly assists the smelting, inasmuch as a great quantity of earthy matter is got rid of, which could not be separated by hand; and also the metal in the ore, if an oxide, is raised to a greater point of oxidation, and reduces more speedily in the furnace. The hæmatites, being in the state of the highest oxygenation, require not calcining, and if they are used alone, must be fluxed variously, as some contain argillaceous earth, others calcareous, and others silicious. Also, to obtain the best metal from them, charcoal should be used instead of coke, there being much less earthy matter in it; the earth of the coke is very apt to get into the iron, which renders it impure.

### PARTICULARS OF BLOWING IN A NEW FURNACE AND OF MAKING THE HEARTH.

The stone should be selected which will stand not only the most intense heat, but also the fluxes that are likely to be used; the best is one consisting principally of silex—such as the "farewell rock" under the coal, which is exceedingly refractory; it resists the action of lime perfectly, but yields to clay; but as the limestone of the charge engages almost, if not all, the clay in the ore, there should generally be a little lime in excess—this is of no consequence. The best cement, or mortar, for building a hearth and boshes, is formed of the spauls of the stone used, laid regularly in the joints, and, after they are finished, well rammed in, using as little water as possible—just enough to make it stick in the perpendicular joints. These will fuse with the stone, and become a solid hard face. When the furnace is ready, it should be annealed well before it is coked; the following is the best way:—The hearth and the boshes should be lined with bricks, to protect them from the direct influence of the fire; a furnace, like a reverberatory furnace, grate should then be built in the front opening of the furnace, and this would form the throat of the furnace, and the draft would be into the body of the furnace. The twyer holes should be closely stopped before the fire is lighted; this should then be worked up hard, till the hearth from above appears to be red-hot, then close the top, leaving only about six or nine-inch hole for a current of air; this will confine the heat, and thoroughly anneal the furnace, if the reverberatory is pushed hard. When it is well heated, the reverberatory should be quickly pulled down—the bricks lining the hearth should be cleared out, the cokes immediately thrown in and allowed to ignite fully; the front opening, where the reverberatory was, must be banked up with sand and clay, till the furnace is nearly full of cokes; it should then be partly withdrawn, and bars thrust through the cokes to the opposite side, and then the whole of the cokes below the bars should be removed, and the hearth scraped quite clean. This scaffolding should take place about two or three times in twelve hours, and continued till the furnace is quite full of cokes—the flame passing all through and out of the top, and the cokes, up to a melting heat below this, will take about two days and nights. The mine should then be thrown in—the mildest to be had should be chosen—commencing with about 2½ cwt. as a burden; this should be increased about a quarter cwt. every ten charges, so as to supply the hearth with metal and slag in sufficient quantity to keep it hot and liquid; if there is not sufficient, the metal is apt to set in the hearth, as the new work will abstract the heat rapidly. The limestone should be about one-third of the mine. A barrow of coke, or eighteen feet, goes to a charge, with one cwt. of limestone to three cwt. mine. The cokes should be very good, obtained from free burning coal, of a silvery appearance, and light. It often happens that a new furnace works very hot forward; if this continues, the hearth will gradually fill up behind the masonry—behind the temp will be burnt away, and most likely the hearth injured. When this begins, the temp and stopping should be lowered a little, and the back twyer thrown up a little, so as not to blow over the dam, else the men will not be able to work the hearth backwards. Great care should be taken in making the men work the furnace well, so as not to allow anything to set hard in the hearth, especially to keep plenty of ashes behind the tapping hole, which will enable them to tap with ease whenever it is required; if it is intended to work with about 3¼-inch or 4-inch nozzles, it is better to begin with about 2½-inch nozzles. Supposing the hearth got foul, and gives no appearance of clearing, the burden should not be altered, but supply part of it with ball mine, which works very hot, and will most likely clear it; if this mine is not handy, the better way is to add a little hawslow or cinders from the forge hearths. It is generally better to begin rather light on limestones that are not the full proportion, as it is apt to set quickly in the hearth; it is better, therefore, to let the slags run foul than endanger the gobbing of the hearth.

The contents of a furnace should never sink lower than to give space below bridge to two charges, as the furnace loses heat rapidly. The limestone, when the furnace is well warmed, may be increased by about six or eight pounds at a time, till the slag shows an excess of lime. Some think it better to charge two charges in one—that is, two barrows of coke, two cwt. limestone, and six cwt. mine. If the blast is rather weak, it is better to blow with smaller nozzles, as a large one is apt to scatter the blast. Cast-iron is distinguished into the following qualities:—No. 1. Best foundry and forge; No. 2. Good forge and strong foundry; No. 3. Good for common forge purposes; No. 4. Bright and good bright; No. 5. mottled and high mottled; No. 6. White. Only the two first will do for making the best iron for tin plates, but all above mottled make very good iron for uses. Bright is the strongest for castings.

Should a furnace scour for any length of time, without any appearance of improving, throw off part of the burden—say, 1 cwt. for a turn or half turn—this will most likely effect the change. If a furnace makes but poor iron—say, mottled—without really scouring, look out for the best and mildest mine and the best cokes from coal, containing the least sulphur, and if, with that treatment, it does not quickly alter, throw off a little of the burden, about a quarter cwt., till it improves, then add it gradually.

* * * *

The pig-iron is first melted in the back fire, which generally occupies about three-quarters of an hour; the man keeps working it about with a bar till it is all melted; and if, when he stirs about the bar and withdraws it, the metal on the point sparkles and scintillates, it is ready; the metal should never be let out till this is the case; if the next fire is not ready, the blast should be slackened, so as not to burn the iron, but still to keep it up to the proper pitch. The metal generally requires a little slag more than it produces by itself, and some thinner, as its own is thick and turgid. The cinder from the lower fire is the best, as it is, when liquid, much thinner, and allows the metal to sink after being well worked. In working iron rather inferior in this fire—say, poor bright and low mottled—it may be a great deal improved by throwing in a shovel of broken limestone to each charge. This engages with the earthy impurities, and clears the iron a great deal, though it by no means makes it equal to that produced from better cast-iron. During the operation some of the slag is tapped out by the hole under the fire plate, when it has accumulated to too great a quantity, which is apt to impede the blast.

When the lower fire is ready for receiving the metal, it is tapped from the back, and runs into the bed of the lower one, where it is received on a bed of charcoal dust, and, as it runs, the workman, with a bar, stirs it up; the fire is kept full of charcoal, or of coke, when making coke iron, in which case they generally use some of the small broken charcoal on the floor of the yard. This operation is conducted by the workman continually stirring up the iron and raising it up to the stream of air—the oxygen of which soon deprives some of the iron of its carbon, which coagulates, and this process of decarbonisation proceeds till all the iron is collected into one mass or ball; the small balls, which form at first, are continually raised to the top of the fuel, and then allowed to sink, with its combustion passing slowly before the blast, which generally blows holes through it, and completely frees it from carbon; the operation is considered finished when all the iron is coagulated into one ball and the cinder lies underneath it, which is tapped out as it requires. The charge in a back fire is generally about 3 cwt. or 3½ cwt.—this, of course, loses much in the two fires, according to the nature and quality of the iron. The charge, when working on coke iron, is taken out in one lump to be hammered, but when working charcoal one lump is drawn about three-quarters time, and the rest follows it, as small pieces are better refined in the fire and better hammered than large ones. The only requisite in hammering is to do it regularly, so that all the stamp may be of the same texture, and also to hammer it thin enough. Coke should never be more than one and a half inch thick, and charcoal not more than one inch. When of these sizes they heat much more regularly at the hollow fire than when thicker, as, in that case, the outside surfaces are apt to burn before the mass is hot enough to weld well. After being hammered, the stamp is thrown into a large box of water, where a continual stream is running through—this assists the stamp in throwing off the scales of oxided iron formed during the hammering, and what little cinder may still adhere to it. The appearance of a stamp, which has been well worked and properly hammered, is that of large open crystals; if this is intermixed with parts cutting much finer, either towards the edges or in the middle, it is a sure sign of its not having been sufficiently worked, or, what the men term "raw," part of it having escaped the action of the blast, and, therefore, still containing a proportion of carbon and earthy matter. If the men are careless in working it, the stamp sometimes throws a quantity of dirt in the middle or towards the edges—this must be thrown back by the stamp cutter, as one piece will spoil a whole bar. The stamps are now taken to the hollow fires to be wrought into bars; they are piled on the end of staffs, in three layers; the middle layer here always consists of black plate shearings, bundled, which tends to keep the lump open and more accessible to the heat uniformly—where these cannot be obtained, the best thing is the cuttings off the ends of other bars; it also permits the cinder that may be attached to the surface to run or be blown out from between. The lump should never, when cut off after working, and rolled into a bar, weigh more than 100 lbs., as the men cannot possibly work a heavier piece well. The staff is then entered into the fire and the heat continued, till it is throughout in a welding state; it should then be drawn under the hammer to weld it firmly; it should, before the heat is off, be hammered on every side, to make it perfectly solid, but the first three or four blows should come on the flat, which renders the middle solid, and drives out any cinder that may be between. As it is impossible to improve the body of a lump after the first or welding heat, great attention should be bestowed on it, that the iron is not burnt in the first place, and that it is not drawn out before it is quite ready in the next. To make the best bars, the iron should not be heated more than twice if possible, as every heating partly undoes what the preceding hammering has done, and the second, and, if required, the third, heat should be as low as possible, for the proper drawing of the bar. The lump should first be drawn into a piece about three inches thick, and three or three and a half feet long, then cut in the middle, and the end piece turned upside down, back on the staff piece; this reverses the fibres, and tends to strengthen the iron, and also brings all the waster piece to one end. This operation, of course, requires a good welding heat in the second process, but the hammering should be completed in that, the bar drawn to the proper length, and cut off hot enough for the rolls to receive it at once; if it must be heated again for passing it through the rolls, it must also be hammered; sometimes men, if not watched, pass it through without—the almost sure consequence of which is, the bar is spoiled. This process of cutting the lump and doubling is not always practised, but where the best and toughest iron is wanted it should be done. The hamslow, or cinder, driven off with the hammering, is generally preserved for the furnace; when the hearth is at all foul, the addition of a little hamslow will generally work it off, as, being already an oxide of iron, it works much hotter than raw mine. The bars are then sent up to the black plate mill, where they are cut into lengths, according to the sized plates wanted. The pieces are then piled on one another (about twelve or fourteen), and placed in the furnace, which is a large reverberatory, having a small fire place, in proportion to the square of the furnace itself. Four or six of these piles are heated at once—the door and the top of the chimney being closed, so that all the heat being retained, the plates get a uniform heating. The rolling of these pieces, which vary, according to the plates wanted, from three-eighths to five-eighths by five inches wide, is called breaking down. They are passed through the rolls a certain number of times, so that they come to nearly the same length, about two feet or so long. These first plates are then thrown, as they are rolled, into the same furnace again, on one side, upon one another, corresponding to the first pile, and, after all are in, the door is again closed, and they reheated. In breaking down, the pieces should be entered rather corner ways, as, if the whole broadside is entered at once, the jar is likely, if not certain, to break the rolls. The first plates are then again rolled, which brings them about four and a half or five feet long; they are thrown over to the doubler, who doubles them up and flattens down the bend with a hammer; they are then thrown to the furnace man, and again heated and rolled; this process is continued according to the plates wanted—sometimes doubled twice, sometimes three times, and four times, which last makes it sixteen thicknesses. The plates, during the last rolling, are measured by a gauge, which the workmen has, for the length; he makes them as near to this length as possible, so that two or three, as they are wanted, may come out lengthways. They are then passed on to the shearers, who mark and cut them to the proper sizes; girls then divide them, and they are sent to the scaling furnace.

The plates are prepared for this furnace by pickling—that is, by steeping them a quarter of an hour in muriate acid and water, which acts on the hard glossy surface, which is an oxide of iron; they are then doubled loosely, and placed singly in the bottom of a reverberatory furnace, which carries a light heat, and when they are brought up to redness they are taken out—the scale then falls off, as a pure peroxide of iron, and leaves the plate clean and free from all the hard glossy coating; they are then beaten by a boy, to disengage all the scale, and which, by beating on the round side, flattens them again. They are next passed through the cold rolls, to take out any winding in them, and make them of a closer texture on the surface. If intended for large heavy soft plates, they are then annealed, which takes all the spring out of them, and makes them much better to work. This is done by exposing them to a very low red heat, and allowing them to cool gradually; if not annealed, they pass immediately, as do also the annealed plates, to the scouring room; there they are first put into very weak sulphuric acid and water, which removes all dirt and any very small portions of scale that might have remained attached, but does not act on the pure metallic iron—at least it should be so weak as not to do so—if it does, it will injure the plates and spoil them entirely, as the action does not cease for a long time; and though the tin may make it appear a good plate, it will be sure to work into holes when the hammer is applied. They then pass on to the tinning-house, or, rather, to the scouring-room; after the pickling, they are passed over to the girls, where they are well washed in water, and then rubbed, both sides, with a sandy cloth, then dipped into water, to remove all the sand from the surface, then passed to the tin pots; first, they are put into a pot, with nothing but boiling palm-oil, or grease, where they remain till they are up to the same heat as the oil, which is found to be the best temperature for taking the tin; it also removes all traces of acid water that might have remained on the plate. They are then put into the tin pot, where they are kept till they are quite tinned—the tin holds very fast on them sometimes and very thick; they are then turned over to a boy, where they are again put into a pot with tin, but with a very little oil on the surface; here all the superfluous tin is melted on the plate and runs off; they are then dipped into a pot with boiling oil—next into the list pot, for removing the think edge of tin, which always is on the lower edge of the plate; this is done by just dipping the edge of the plate into a pot, very hot, and about three-quarters of an inch deep in melted tin, and, when the list is melted, the boy strikes the flat of the plates with a piece of wood, which spirts off all the extra quantity of tin; he then just dips about one inch of the plate into strong lime water, which immediately passes all over the plate, neutralising the oil and grease; they are now turned over to the girls, to be rubbed with sawdust and bran, to clean the surface well, and they then pass to the sorting-room.

#### PRICES OF DIFFERENT PROCESSES.

| | | | |
|---|---|---|---|
| Rolling tin plates | 9s. | 1½d. | per dozen boxes. |
| Shearing | 0 | 1 | per box. |
| Marking | 0 | 4 | per dozen boxes. |
| Opening | 0 | 7½ | „ |
| Pickling | 0 | 7½ | „ |
| Scaling | 0 | 4 | per box. |
| Scouring | 0 | 10½ | per dozen boxes. |
| Annealing | 0 | 2½ | per box. |
| Tinning and washing | 0 | 6½ | „ |
| Listing | 1 | 0 | per dozen boxes. |
| Greasing | 0 | 9 | „ |
| Rubbing | 2 | 0 | „ |
| Making tin cases | 0 | 1¼ | each. |
| Sorting (day work), 20s. | | | |

#### PARTICULARS OF THE DIFFERENT SORTS OF PLATES GENERALLY MADE USE OF, THE HEAVIER AND LARGER PLATES, SUCH AS SDXXXXXX AND DXXXXXXX, GENERALLY INCREASE IN WEIGHT PROPORTIONALLY.

| Number of plates in a box of each sort, and weight of a box. | Twelve hours work | Twelve hours work. | Wages men will earn on different plates | Lbs. per superficial foot of black plate. | Weight of bars for 12 hrs. work. | Thickness in Dec. |
|---|---|---|---|---|---|---|
| 225—14 by 10 = 219 ft. Cwt. qr. lb. lbs. | boxes. | Cwt. | £ s. d. | | C. q. lb. | |
| IC ..... 1 0 0 = 112.. | 25 | 25 | 1 0 6 | ·49 | 41 3 0 | |
| I.X ..... 1 1 0 = 140.. | 22 | 28·5 | 0 18 1 | ·59 | 53 2 0 | |
| I.XX ..... 1 1 21 = 161.. | 20 | 29½ | 0 18 6 | ·71 | .. .. | |
| I.XXX ..... 1 2 14 = 182.. | 17 | 27½ | 0 13 11 | ·80 | 46 2 0 | |
| I.XXXX ... 1 3 7 = 203.. | 16 | 29½ | 0 13 1½ | ·90 | 40 0 0 | |
| 200—15 by 11 = 225 ft. Cwt. qr. lb. lbs. | | | | | | |
| SDC ..... 1 1 27 = 167.. | 18 | 24 | 0 13 1½ | ·705 | ..... | |
| X ..... 1 2 20 = 188.. | 18 | 27 | 0 13 1½ | ·795 | ..... | |
| XX ..... 1 3 13 = 209.. | 16 | 29½ | 0 13 1½ | ·885 | ..... | |
| XXX ... 2 0 6 = 230.. | 16 | 32½ | 0 13 1½ | ·975 | ..... | |
| XXXX .. 2 0 27 = 251.. | 14 | 31½ | 0 11 4½ | 1·065 | ..... | |
| 160—16½ by 12½ = 141 ft. Cwt. qr. lb. lb. | | | | | | |
| DC ..... 0 3 4 = 88.. | 30 | 26½ | 1 4 7 | ·665 | .. .. | |
| X ..... 1 0 14 = 126.. | 25 | 28 | 1 0 6 | ·755 | ..... | |
| XX ..... 1 1 7 = 147.. | 20 | 26½ | 0 16 6 | 1· | ..... | |
| XXX ..... 1 2 0 = 168.. | 16 | 24 | 0 14 1½ | 1·130 | ..... | |
| XXXX .. 1 2 21 = 189.. | 14 | 23½ | 0 11 4½ | 1·3 | ..... | |

## ORIGINAL CORRESPONDENCE.

### BOLANOS MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The proceedings of the above company have lately occupied a considerable space in your columns, and statements having been put forth by an individual proprietor, which, if well founded, would reflect discredit upon the judgment and discretion of the directors, I have, as the holder also of a large interest in the concern, obtained, through authentic sources, such information as satisfies me that many of the statements authorised by that gentleman are groundless, and, at the same time, that important facts have been withheld from publicity—altogether occasioning a very erroneous impression upon the minds of the majority of the shareholders. The simple facts are these—

In the month of February last the directors received intelligence from Mexico, which showed the necessity of raising immediately a further capital, or of submitting to the alternative of the sacrifice of the mines, stores, and property of the company generally, to meet the obligations in Mexico; they immediately invited the principal shareholders to a conference as to the measures best to be taken, and, among other gentlemen, Mr. John Brown attended. A full statement of the company's liabilities and assets, and every information possessed by the directors, was laid before this meeting. Great difficulties were admitted to exist as to the mode of raising the requisite capital, unless by fixing the shares at a price much below their then quoted value in the market. Hence arose the suggestion of creating shares, partaking somewhat of the character of a loan, to be paid off, with a bonus of 25 or 50 per cent., according to circumstances. This plan, be it remarked, was recommended by an influential shareholder, not being a director, and was unanimously approved of by all the other gentlemen present, including Mr. John Brown. The resolutions, formed accordingly, were subsequently passed, and confirmed on the 25th March and 14th April.

It appeared to all of us, at that preliminary meeting, that the principle adopted in those resolutions was the only one which, in the depressed state of the company's affairs, would give encouragement to the capitalist to advance his money, while it protected the interests of those who could not subscribe, by maintaining the price of the shares at the highest rate at which there was a reasonable prospect of obtaining subscriptions; and I can safely aver, that the interests of the subscriber and non-subscriber were equally considered in adopting the scheme in question. Not a syllable in opposition to it was then uttered by Mr. John Brown, though he took part in the discussion of the meeting; he did not, however, long continue in this amicable frame of mind, for it appears that, after the resolutions were unanimously passed and confirmed at two several meetings, he applied to the Court of Chancery, and on his *ex parte* statement he obtained an injunction to restrain the company from acting upon the said resolutions.

The principal averment in his application to the Chancery Court, and on which, of course, while unanswered, an injunction would be granted, was, that "the original capital of the company being 200,000*l.*, it was permitted by the deed to be increased by 100,000*l.* more, or, in all, to 300,000*l.*, and no more; that consequently the power of the company to raise further capital was exhausted."

Now, the clause of the deed in question, which I have carefully read and considered, allows of the 100,000*l.* in question to be raised by contribution on the original 500 shares, and thus each original 400*l.* share was liable to a levy upon it of 200*l.* in addition, if voted by two general meetings. This augmentation of capital was carried into effect as early as April, 1827. The deed, however, in several of its clauses (and even in the particular clause above referred to), sanctions the raising of capital "at any time," and "to any amount," by the creation and sale of new shares. The interpretation put upon the Deed of Settlement by Mr. Brown, is, therefore, contrary to the obvious intent and meaning of it, and is in opposition to very decided opinions of some of the first legal authorities, including Sir Nicholas C. Tindal, when Solicitor-General, and Lord Campbell, now Chancellor of Ireland.

To remove, however, all doubts on this point, and more especially to obviate the great delay which the awaiting the issue of a Chancery suit must unavoidably occasion, the directors, though not at all doubting the legality of their earlier proceedings, rescinded the resolutions excepted to by Mr. Brown, and, under the powers provided by the deed, to make any new laws or regulations whatsoever, which do not increase the liability of shareholders on their existing shares, they proposed and carried, on the 29th of May and 15th of June last, certain resolutions declaratory of the power of the company to increase their capital by the creation and sale of new shares.

However tedious this course may have been, it cannot be denied that the directors have proceeded throughout in an open, yet careful manner, leaving by their declaratory resolutions nothing to doubt, where the slightest doubt was implied by their opponent. The consequences of the opposition of this gentleman must be too obvious to every shareholder to need my pointing out; it has had the effect at least of reducing the market value of our shares from 10*l.* or 12*l.* to between 3*l.* and 4*l.*, and, unless the directors and the manager had stood by the concern when others similarly embarrassed would have forsaken it and given it up to its fate, and to the spoliation of strangers, the company would by this time have been totally ruined.

Though few of my brother proprietors can have sustained greater disappointment from "hope deferred" than I have during the last three or four years, I cannot bring my mind to think otherwise than that we are at the top of a fine harmonica in the mine of San Cayetano—every indication yet presented promises this; and if we do come into bonanza there it will be one of a wholesale character.

I place very great confidence in the reports of Captain William Bolitho of Bolanos, who, throughout his management of the mines, has seldom done more than report upon facts, without volunteering his opinions; but he has expressed repeatedly and strongly his confidence in San Cayetano,

and I do not believe that he would do so, unless he felt assured in his own mind that he was working upon a safe and profitable undertaking.

The chance alone is too good to be sacrificed, but it is not my present purpose to dwell upon the subject of the mines, further than to show, that the ill-judged proceedings of Mr. John Brown have already occasioned material injury to the interests of the other shareholders, and if his own great wealth render his individual stake in the concern a matter subordinate to the gratification of hostility towards the directors, he should nevertheless be reminded that his less fortunate partners cannot afford to pay for this species of gratification. He should bear also in mind, that some consideration is due to the wishes and opinions of his fellow-shareholders, and the unequivocal disapprobation expressed at his proceedings, at several general meetings, must have taught him that he is alienating himself more and more from them by his pertinacity.

I am, Sir, your obedient servant,

*London, July 22.* ——— A PROPRIETOR.

## MOVEABLE INCLINED PLANE.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I have lately fixed a steam-engine, for the purpose of pumping water from a lias stone quarry, and think of applying it to do the earth-work, and draw the loaded waggons up a moveable inclined plane, supported on trusties. Any of your readers will oblige by informing me where I can see such an inclined plane—viz., moveable—at work.

I am, Sir, your obedient servant,

*July 20.* ——— R. GREAVES.

## SUGGESTED EXPORT DUTY ON COPPER.

TO THE EDITOR OF THE MINING JOURNAL.

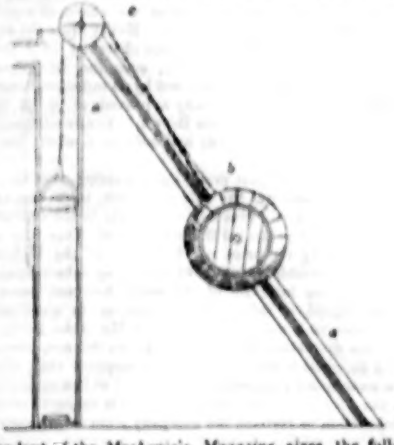
SIR,—The foreign copper ore imported into this country for smelting, under a wise arrangement of the Government in allowing the employment of capital and labour in that direction, from circumstances, arising either from the large profits accruing to the foreign mining companies rendering them careless of their own interests, or, that being obliged to be sold at prices fixed by the smelting buyers, produce ultimately the highly injurious effect (from whatever cause arising) of rendering cake copper at from 2*l.* to 8*l.* per ton, or 7 to 8 per cent. less to foreign manufacturing countries than the English manufacturer has to pay for the article. This ore being the only pure metallic one imported into this country for smelting, surely some mode ought to be adopted by the Legislature for the alteration of this anomalous state of things. There has been lately a great cry raised against the "sliding scale," as relating to corn, but I really think it might be applied advantageously in the shape of an "export duty" to this article, corresponding in amount to the difference between the two prices—that is to say, if copper for consumption in England is 97*l.* at Swansea, and the same copper, in reality (by this smelting in bond arrangement), is only 90*l.* in bond, and solely applicable to export, to put on such a duty as would prevent foreigners from being supplied with the raw material at less price than our own manufacturers, who thus are unable to compete with them in the manufactured supply to all other countries. The revenue would be benefited, the foreigner would be content to pay the adjusted price, and the general rule of this country to supply our manufacturers with a cheap raw material, would not, by our own acts, be nullified.

Of course I am not so bigoted to my own plan as not to suppose this might be met by some other means; but, as an import duty on the foreign ore might, perhaps, send it to other countries for smelting, and raise the price on our own manufacturers for home use, it should be certainly an export duty of some kind. I remain, Sir, your's, &c.,

*London, July 13.* R. J.

P.S.—Why not allow all copper ores to be imported free for use in this country, and place a fixed duty on all cake copper exported, as after all, it is probable the rich foreign ores can only profitably come here for smelting with our poorer ores.?

## NEW MOTIVE POWER APPLIED TO PUMPING.



A correspondent of the *Mechanic's Magazine* gives the following description of a simple contrivance, about being erected near Brixham, Devonshire, by a Mr. Prior, for the purpose of raising water for washing ore, and which promises to be a great and general benefit, making useful a power whose visitation has generally been accompanied with horrible devastation. Mr. Prior has succeeded in obtaining a motion to work a pump, by the action of the tide and waves. Two pieces of timber, *a a*, are laid out into the sea in a slanting direction as far as low water mark, and are strongly secured by iron work to the rocks; these timbers are about four feet asunder, having a groove in each. A strong cask, *b*, having two gudgeons, slides up and down in these grooves, so that the least motion of the waves causes the cask to rise and fall. Attached to the centre of the cask there is an eye of iron, into which a chain is fixed that runs over the pulley, *c*, and is attached to the bucket of a pump of large dimensions. The bucket of this pump is of sufficient weight to sink of itself, keeping the chain tight, having room enough to traverse, so as to allow for the rising and falling of the tides the cask is about half filled with stone, so as to counteract its buoyancy.

We must leave it to time to establish the value of this simple discovery; if worked upon a larger scale an immense body of water might be raised to any height by this power, and being caught in reservoirs could be made applicable to drive any sort of machinery by means of water-wheels.

THE SAFETY LAMP.—Professor Partington has just concluded a course of lectures at the Sunderland Athenæum. The various improvements in mining occupied the last lecture; when illustrating the mode of ventilating these underground excavations, the learned professor traced the history of the safety lamp, and proved, by the most authentic evidence, that Dr. Clanny was the first to invent and construct a complete safety lamp, which the miner could introduce into the most explosive atmosphere, without a possibility of accident. This lamp was used by Dr. Clanny himself, in a hundred acres of fire-damp in Lady F. Tempest's (now Londonderry's) mines, about six miles from Sunderland. It may be right to add, mentioned the professor, that the Society of Arts voted Dr. Clanny their first-class gold and silver medals in 1816, for the invention and improvement of this lamp.

CONVERTIBLE OIL FOR STEAM-BOILERS, &c.—A simple and efficacious method is now known of preventing the incrustations in question; it is to add from 20 lbs. to 33 lbs. of potatoes to the water in a boiler which consumes from 55 lbs. to 66 lbs. of coals per hour. The boiler may be then employed for twenty or thirty days without being cleaned, and without any fear of a calcareous deposit. After this time the said must be thrown away, and the same quantity of potatoes again be added. It appears that the fecula, by dissolving in the water, renders this sufficiently viscous to prevent the deposition of the calcareous matter. Peas would produce the same effect, and much less of it would be required. A few days after the steam-boiler intended to heat the Exchange in Paris was brought into use, it was perceived that there was a hole in the furnace. The fire was extinguished, and it was found, upon emptying the boiler, that the metal was burnt in a place where a rag (chiffon) had been deposited, which had been forgotten when the apparatus was set up.—*Foreign Quarterly Review*

## THE IRON MANUFACTURES OF FRANCE.

[Continued from page 222].

### THE DEPARTMENT OF THE UPPER RHINE.

The continually increasing price of wood places the forges of the department of the Upper Rhine in those circumstances of difficulty which have already been mentioned as attending the other departments of the first group. There, as elsewhere, the difficulties would have been surmounted by the persevering efforts of the ironmasters, had not another obstacle, naturally insurmountable, arisen—the exhaustion of the known beds of iron ore. The scarcity of iron in the Upper Rhine is at present so great, that the department possessed in 1836 two only, those of Lucelle and Masseveaux, which have continued in operation.

The manufactory of Lucelle, and that of St. Pierre, which is annexed to it, being situated on the extreme frontier, and almost comprised in the canton of Berne, are in the best situations for receiving wood and charcoal in abundance, since the exportation of these combustibles has been authorised by the Swiss Government, and particularly since two forges in the vicinity situated on the foreign territory have ceased to work. With respect to the iron ores, they are supplied in great abundance, of very superior quality, from Mettenbergh (Switzerland). This fortunate situation, and the quality of the produce of these manufactories, have rendered the adoption of the modifications of the old method of manufacturing less necessary than it is with the other forges of the same group. It is, however, two years since the forge of St. Peter applied the waste flame of one of the refinery furnaces.

The manufactory of Masseveaux, situated on the chain of the Vosges, and which can only obtain its ore from the mines in the department, has hitherto been able to continue in operation solely by uniting the resources which were formerly adequate for two distinct establishments, and by perfecting the various parts of its manufacture. The blast-furnace during the last three years has regularly been supplied with hot air; the roasting of the ores with the waste heat of the furnace mouths, succeeded by sorting and washing, is always practised with success. The application of the scoriæ of forges has also been continued, and numerous attempts, attended with various results, were made in the course of 1837, to increase without injuring the quality of the iron, the proportion in volume to 1 of scoriæ for 4 of ore. The question was important in a country where the supply of ore is almost exhausted, and where the scoriæ of the forges of Haut-Rhin and Haute-Saône can be procured at little expense; besides, the produce from these scoriæ is more considerable than from the ore; real advantage, has consequently resulted from the success of the attempt to use them in the regular charge in the proportion of one-half in volume. This solution of a difficult question, impelled by imperious necessity, indicates clearly enough what use may be derived in many other countries from a produce which has not hitherto been of any value, and yet containing more iron than is contained in the greater proportion of ores worked in France, and which in every group of forges often retains the fourth or even the third part of the total quantity of iron extracted from the mines in the state of ore. To the mixture of charcoal and wood with which the blast-furnace was supplied in 1836 there has since been added a certain quantity of coke, which great attempts have been made to increase. The proximity of the gas manufactory of Mulhausen enables these attempts to be made at little expense.

In conclusion, in 1839 a hundred kilogrammes of iron were produced from the following quantity of material:—

| | | | |
|---|---|---|---|
| Iron ore | kil. 159 | Charcoal | kil. 66 |
| Scoriæ from forges | 99 } 264½ | Wood | 11½ } 130 |
| Castine | 6 | Coke | 19 |

The application of hot air at 200 deg. of the centrigrade thermometer, and the mixture of charcoal and wood, are become generally adopted in the two refinery furnaces of Oberbruck. The result obtained from it consists only of a saving of fuel. The expectations that an improvement in the quality of the iron would be produced, and that the operation would require less time have not been realised. The construction of engines, which may be regarded as an accessory branch of the iron manufacture, has made great progress during the last few years, under the influence of the prosperous manufacturing circumstances in which this country is now placed. The important establishment of Bitschwiller and the two manufactories of Mulhausen, will now, with respect to the perfection and elegance of their productions, bear a comparison with the best foreign manufactures.

## SHIP CANAL FROM THE ATLANTIC TO THE PACIFIC.

The new work of Mr. Stephens contains an extended notice of the survey of a route for a ship canal from the Atlantic to the Pacific, *viâ* Lake Nicaragua, by Mr. Bailey, a half-pay officer in the British navy. The route, as surveyed by that gentleman, commences at the head of ship navigation on the river San Juan, which empties into the Pacific, and proceeds to Lake Nicaragua, a distance of fifteen miles and two-thirds. The highest elevation on this route is 615 feet above the level of the Pacific. The aggregate of ascents from the Pacific to the lake is 1047 feet, and of descents 919 feet; consequently, the lake is 128 feet higher than the Pacific. In the first eight miles from the lake but one lock is necessary; in the next mile sixty-four feet of lockage are required; in the next three miles there are about two of deep cutting, and one of tunnel, and then a descent of 200 feet in three miles by lockage to the Pacific. The lake itself is ninety-five miles long, and averages fifteen fathoms of water. From the mouth of the lake at its eastern extremity to the Atlantic, by the course of the river, which is also called San Juan, is seventy-nine miles. This river has no cataracts or falls, and the only obstructions are from rapids. Its average fall per mile, from the lake to the Atlantic, is one foot and six-sevenths. It is at all times navigable, even now, for piraguas drawing from three to four feet. For the most part it is deep enough for ships. "If the bed of the river cannot be cleared out," says Mr. Stephens, "a communication can be made by lock and dam, or by canal, along the bank of the river." The estimated expense of constructing a ship canal from the Atlantic to the Pacific by this route is thus stated:—

| | |
|---|---|
| From the lake westward to the east end of the tunnel | 8 to 10,000,000 dol. |
| Descent to the Pacific | 2 to 3,000,000 ,, |
| From the lake to the Atlantic by canal | 10 to 12,000,000 ,, |
| Total | 20 to 25,000,000 dol. |

This amount greatly exceeds the estimated cost of a similar communication from Chagres, on the Atlantic, to Panama, on the Pacific, as contemplated by the French Grenadian Company. The expense of the latter work is estimated by the parties concerned in its construction at only 16,000,000 francs, or about 3,000,000 of dollars.—*New York Journal of Commerce.*

RAILWAY FROM CARMARTHEN TO SWANSEA.—Mr. W. Long Wrey has addressed a letter to the Cambrian, detailing many advantages that would attend the formation of a line of railroad between these two towns—the entire distance would not exceed thirty miles, and in importance would be second to very few in the kingdom. The line proposed by Mr. Wrey is from Swansea to Loughor, crossing the river a little below the town, over the low lands to Llanelly, and on in a direct line to Burry Port and Pembrey village, through Kidwelly, to St. Ishmael's, the Ferry Side, and Carmarthen; at Loughor, making a branch on the left to Penclawdd, and on the right to Court Carne, then crossing the river, and forming a junction with the Llanelly and Llandilo Railway, and thus effecting a communication between Llandilo and all the country above it with Swansea. Many persons, unacquainted with the locality, can hardly appreciate the immense resources this line would open out; and those even more intimate with the district may at first overlook many of the advantageous points. The first great feature in the plan, is one which is unequalled by any line in England; it would immediately connect seven seaports—Swansea, Loughor, Penclawdd, Llanelly, Burry Port, and Pembrey (two harbours), Kidwelly and Carmarthen. It would also cross the Llanelly and Llandilo Railway, the Carmarthenshire Tramroad, and the Kidwelly and Gwendreath Canal, which are so many ready-made branches communicating with the interior, through one of the very richest portions of the South Wales mineral basin.

BRITISH ASSOCIATION.—An invitation from the Literary and Philosophical Society, and other public bodies of Manchester, will be forwarded to the council of the British Association for the Advancement of Science, during its sitting at Devonport, to hold their meeting for 1842 in Manchester. A similar request had been sent several years ago, but, owing to some circumstances, was not accepted, but there is every reason to believe, that the present invitation will be satisfactorily responded to.

AMMONIA.—The chemical examination of the atmosphere has only very recently shown that it contains ammonia, and this is deposited on the earth by the rain; and provided a pound of rain water, as has been shown, contains only one-quarter of a grain of ammonia, then a field of 40,000 square feet must receive annually upwards of 80 lbs. of ammonia, or 65 lbs. of nitrogen.

## BERYL MINE OF PADDIOOR, AND GEOGNOSTIC POSITION OF THIS GEM, IN COIMBATOOR, SOUTHERN INDIA.

BY LIEUTENANT NEWBOLD,

Madras Army, A.D.C. to Brigadier-General Wilson, C.B.

The Beryl Mine of Paddioor, or Pattaley, as it is sometimes termed, is situated at the eastern extremity of a village of the same name, in the Kanghyum Taluk, in the Coimbatoor Collectorate, about forty miles east-north-east from the town of Coimbatoor, which lies in lat. 11° north., and long. 77° 1′ east. The surrounding country is an undulating plain, studded with a few short clusters of hills, principally of gneiss and quartz rock. The surface of the plain is intersected by a few ravines and rivulets, flowing towards the Noel River, which, rising in the Nilgherry Chain, pursues an easterly course to the Cauvery. The latter river flows through the midst of this great plain, which is bounded by the Nilgherries to the west, and the Shevaroy and Salem Mountains to the east. All these ranges consist of normal rocks, principally gneiss, hornblende slate, and mica slate, associated with granite, greenstone, and basalt in dykes. The rocks that occur in the plain are of a similar description, with beds of quartz distinctly stratified, sometimes highly ferruginous, and passing into garnet rock. Garnets, regularly crystallised, often occur in the gneiss and hornblende slate. Primitive crystalline limestone and a talcose rock occur, though rarely, interstratified with the gneiss and hornblende slate. A remarkable feature is the prevalence of basaltic dykes, accompanied by large travertine and tufa-like deposits of carbonate of lime. The influence exerted by these dykes over crystalline and metalliferous developments in these districts is interesting and instructive. Dykes, or veins, of a porphyritic granite too, traverse the gneiss in various directions. The larger veins are generally from west to east, varying a few degrees to the south of east. The metallic ores and minerals found associated with these rocks are chiefly the magnetic or black iron ore, disseminated and interstratified with quartz rock in a state of great purity. It sometimes occurs in octahedral crystals, with a whitish micaceous looking *exhuit*. Both varieties are often highly magnetic with polarity. Manganese also occurs in the form of the black oxide; also garnets, corundum, magnesite, nephrite, asbestus, chromate of iron, adularia, pyrites, &c. Rubies have been found associated with the corundum which occurs imbedded in gneiss. I am not aware that the other beautiful variety of rhomboidal corundum—viz., the sapphire, has ever been discovered; but, from certain indications, I should be led to suppose its existence. Gold dust is found in many of the rivulets flowing down the sides of the Nilgherry and Salem Mountains.

I will now proceed to describe the bed and minerals with which the Beryl is more immediately associated in the particular locality which has already been adverted to—viz., Paddioor. The mine has been sunk through a bed or dyke in the gneiss and mica slate on the line of contact; it is about eighteen paces long, by fourteen broad; it has about seven feet of water covering the lower part, and is about twenty-four deep to the surface of the water. The dyke is composed of a highly crystalline porphyritic granite, the component minerals of which are generally beautifully characteristic and distinct. The quartz is sometimes regularly crystallised, but usually in amorphous translucent masses, imbedded in large tabular crystals of pale rose-coloured felspar, with cleavlandite, garnet, and white, black, and bottle-green mica. A crystallised pyramidal prism of quartz, that had been dug out of this mine, measured two feet three and a half inches in length, and one foot three inches in diameter; it had, however, been fractured, and four only of the sides were tolerably perfect. The mica occurred both in six-sided tables and in large irregularly-shapped nests, one of which measured two feet in length—the lamine highly elastic and transparent. A few of the garnets were crystallised in dodecahedrons, sparingly disseminated in the rock; one of these crystals measured two inches in diameter. The crystals of cleavlandite were remarkably fine, and characteristic of this beautiful variety of felspar. The various minerals composing this bed pass from the porphyritic structure into a curiously fibrous arrangement: the quartz, felspar, and cleavlandite occurring in alternate prismatic lamine; sections of this rock, at right angles with the long axis of the prisms, exhibit on their surfaces the appearance of graphic granite. Where this arrangement is observed, the mica is partially and irregularly distributed in thin pyramidal nests, rarely in direction with the lamine of the rock. The quartz and felspar, where they meet with a large nest of mica, usually lose their laminar structure, becoming confused and lumpy. The felspar and cleavlandite is both white and translucent, and opaque and reddish; the latter is often crossed by microscopic fissures, inclined at a great angle to the axis of the prism. Ghumpore, in the Nizam's dominions, is the only other locality in India where I have met with this fibrous rock; it was there also associated with gneiss and granite. The cleavlandite often occur in large masses, with small cavities, partly formed by the decomposition of the rock, and partly by the intersection of the longer and more distinct crystals of the cleavlandite; it is in this gangue, and in these cavities, that the beryl, or aquamarine, is almost invariably found, in long deeply striated hexahedral prisms, with small crystals of quartz.

The whole of the rock, composing the dyke, is divided by seams, almost horizontal, intersected by fissures, thus dividing it into cuboidal masses. Many of the seams are filled by a whitish earthy incrustation of carbonate of lime, that has a tendency to collect in nodules. The larger calcareous veins attenuate as they ascend in the rock, and appear to have penetrated it from below, rather than to have been deposited from above. On reaching the surface, which it often overspreads, in beds of great extent, underlying the present soil, it assumes a closer texture, with a nodular or pisiform surface, the interior having a spheroidal structure, not unfrequently assimilating that of the travertine of San Filippo. It has been deposited, no doubt, by springs of water ascending through the subjacent strata, charged with carbonic acid, and holding lime in solution.

Small springs are still observed percolating upwards through the fissures of the rock; and, as they trickle over its surface, depositing a thin black crust, composed of carbon, a little iron, calcareous and saline matter; the latter contained both the muriate and sulphate of soda, which salts, and nitrate of potass, exist abundantly in the soil of the adjacent district. The water at the bottom of the mine is sufficiently pure for irrigation and the purposes of life.

There are marks of other excavations in this vicinity and in the same bed. The natives, however, assert their perfect ignorance of their use. Judging from the high barren situation in which I found them, these excavations could hardly have been made for wells. Blocks of the cleavlandite, which forms the matrix of the gem, had been thrown out, and evidently broken up, in search of what it might be supposed to contain. The excavations were shallow, but extensive, and the quantity of the broken up gangue very large; it (the cleavlandite) can be traced in the rocks in the vicinity to an extent, east and west, of about thirty-eight miles; and it is likely that, in ancient times, antecedent to Mohammedan conquest, when rights to landed property were more secure, the gem was obtained in abundance. Now, the surface veins appear to be completely exhausted in all the excavations I examined; but it is probable, from the inquiries I made, that it is still secretly procured by natives from certain localities in this district, as it still forms an article of traffic in Indian bazaars. It has been thought, with some reason, that the largest crystallised Beryl ever known, weighing six ounces, and costing 500*l.*, and which was supposed to have been brought to Europe from Ceylon, was the produce of the Beryl mines of Coimbatoor, as neither Davy, nor any of the authors enumerant with the mineralogy of Ceylon, mention its existence on that island. It has been stated positively, that it does not occur there.

To Mr. Heath the merit is due of having first brought these mines under the notice of Government. Mr. Fisher, the enterprising land proprietor of Salem, informed me that the gem was first discovered by the diggers of a well on the estate of the village Potail, who sold them secretly to the itinerant jewellers and chittys, who purchased them in large quantities for a mere trifle, and sold them at an immense profit at Madras, Pondicherry, and other European settlements. This, coming to Mr. Heath's knowledge, afforded a clue by which he was enabled to trace the beryl to its situs. He lost no time in obtaining the conditional consent of Government, and arranging with the native owner of the land. Mining operations were carried on for about two years, and were discontinued in consequence of the mines being exhausted, and the expense of draining off the water. It has now (1840) reverted to its original purpose of irrigation, and is still the property of the Potail who originally caused it to be dug. This venerable old Hindoo, Chinnana Gouda, whose hair and beard are blanched by age, paid me a visit at the mine. He informed me that it is upwards of forty years ago since he dug it; and that, until Mr. Heath's discovery, about twenty-two years ago, he had not the slightest idea of the treasures contained in his own well, and of which he had been robbed for eighteen years by the people he employed.

In India the beryl appears to be almost confined to this particular district. The natives, however, inform me that it occurs at Vaniambadi, at the northern base of the Nilgherries, in rocks of a similar age and petrographical character. In Europe it occurs also in the primitive rocks—in the granite and gneiss formations.

We understand that a pension of 200*l.* a-year upon the civil list has been granted to Mr. Snow Harris, of Plymouth, the distinguished chemist and electrician.—*Observer.*

VALUABLE COLLECTIONS OF MINERALS.—The Earl of Mountnorris and the Lady Valentia have signified their intention, at the request of the late Lord Viscount Valentia, of presenting to the Royal School of Medicine, Birmingham, his lordship's splendid collection of minerals; the Earl of Mountnorris has likewise presented to the institution his own valuable collection in the same department.

THAMES TUNNEL.—The shield of this great work is no longer to be seen, as it is now again at work, forming a junction with the shaft, which is nearly sunk to the required depth on the Wapping side.

## PROCEEDINGS OF SCIENTIFIC BODIES.

### GEOLOGICAL SOCIETY—Feb. 24.

Mr. R. I. Murchison (President) in the chair.

Mr. Owen read a paper "On parts of the Skeleton of three species of Labyrinthodon, from the new red sandstone of Warwickshire, with remarks on the probable identity of the Chirotherium with this genus of extinct Batrachians."

In a former paper, Mr. Owen described, in great detail, the complicated peculiarities in the dental structure of the labyrinthodon, exhibited in slices obtained from about the middle third part of the teeth; and he inferred, from the external longitudinal grooves diminishing in number towards the apex of the tooth, that the internal structure of that portion, which he had not then microscopically investigated, would prove to be more simple than the middle. Since that paper was read, Mr. Owen has been enabled fully to verify this inference, by the examination of slices of a tooth of the *Labyrinthodon leptognathus*, found at Coton-end, near Warwick, which resemble, in their intimate structure, that of the entire tooth of the ordinary batrachia, and of most reptiles. The principal object of this memoir being to describe the remains of the skeleton of the labyrinthodon which have been found in England, Mr. Owen dwells at great length upon the peculiarities of each bone, indicating, with his wonted accuracy, and by means of his extensive knowledge, the points of resemblance to recent batrachia and crocodiles; and demonstrating most clearly, that this earliest of extinct reptiles possessed characters which, at present, are not found united in any one genus of existing animals. We can give only the general conclusions of the author.

The remains which are thus described, consist of portions of the upper and lower jaws, an anterior frontal bone, two vertebræ, a sternum, a fractured humerus, an iliac bone, with a great part of the acetabulum, the head of a femur, and two unguial phalanges. These bones were found detached, and some of them in different quarries; but, at Leamington, there was discovered a closely and irregularly aggregated group of bones, manifestly belonging to the same skeleton, and including four vertebræ, more or less complete, portions of ribs, a humerus, a femur, and the two tibiæ, one end of a large flat bone, and several small dermal osseous scutæ. In the course of the paper abundant proofs are given that all these remains belong to the labyrinthodon, possessing the same intermixture of batrachian and crocodilian characters. With respect to the bones of the head, Mr. Owen says, if the cranial structure of the labyrinthodon be compared with the batrachian condition of the same part, a striking and important difference will be seen, while an approximate agreement with that of the crocodilian will be found to exist. In both the caducibranchiate and perennibranchiate species of batrachia, the upper maxillary bones present the form of slender elongated styles, attached only by a slightly expanded anterior extremity, from which they project backwards, and generally terminate in a free and disengaged point, and their external surface rises almost vertically above the alveolar margin, and is not extended horizontally over the upper surface of the skull—a very wide interval being left between the maxillary and nasal bones; and the palatal processes of the former contribute as little to the formation of the floor of the same cavity. In the crocodile, on the contrary, the palatal processes of the maxillary bones extend horizontally inwards, and meet at the middle line of the roof of the mouth, forming an unbroken floor to the nasal cavity. In the labyrinthodon the superior maxillary extends inwards to the nasal bone, constituting with it a continuous strong bony roof over the nasal cavities; but the palatal processes, instead of reaching to the middle line, as in the crocodile, are very narrow, as in the batrachia; and the osseous roof of the mouth is principally composed of a pair of broad and flat bones, analogous to, but of greater relative extent than, the divided vomer of batrachia. In this part of its structure, Mr. Owen states, the labyrinthodon comes physiologically nearest to the crocodile, but that the structure itself, morphologically, is essentially batrachian, the bony roof of the mouth being formed by a greater development of the vomerine bones, situated, as in the batrachians, at a part of the skull which is occupied solely by the maxillary bones in the crocodiles. The most marked character, however, in this portion of the labyrinthodon, as distinguishing it from that of the crocodile, is the occurrence of palatal teeth. In the *L. leptognathus* a row of five transversal teeth is arranged across the anterior expansion of each palatine bone—the three median ones being small and equal and the two exterior much larger; while from the outermost of the latter commences a longitudinal row of small and equal-sized teeth, which is continued backward along the outer margin of the palatine bone, the whole series describing an arch, nearly concentric with the external maxillary teeth.

In incertine reptiles, the examples of a palatal row of teeth are very few, and where it exists it is short, and situated towards the back of the palate, upon the pterygoid bones, as in the iguana and mosasaur. In the batrachia, the palatine teeth are mostly arranged transversely at the anterior part of the divided vomer in the frog, and at the posterior part in certain toads; they form also an extensive row along the anterior margin of the vomer in the menopome and salamander; and in the amphisbæna, a longitudinal series along the outer edge of the long and narrow palatine bone. It has been just shown, that in the labyrinthodon both these dispositions of the palatal teeth are combined. The maxillary teeth are almost all of moderate and equal size, and are closely arranged in a single straight row, each tooth being implanted by a broad base, in a distinct, but not deep, socket, whilst the three remaining teeth in the portion of *L. leptognathus*, examined by Mr. Owen, are much larger, and less regularly situated, at the anterior part of the dental series. The base of each tooth is anchylosed to the outer wall of the socket, and projects directly from it, there being no external alveolar ridge. The basal third of the serial teeth is fluted, but the apical two thirds are cylindrical and smooth. With respect to the shedding, and renewal of the maxillary and palatal teeth, in the *L. leptognathus*, Mr. Owen shows, that the process took place alternately in each series, as in many fishes. From the close resemblance between the labyrinthodon and the sauriens in the physiological condition of the nasal cavity, the author believes, that the extinct animal differed from living batrachia, in having distinct posterior nasal apertures, surrounded by bone, and placed far behind the anterior or external nostrils, and that, therefore, the mode of respiration was the same as in the higher air-breathing reptiles; from this construction he also infers, that the labyrinthodon had well-developed ribs, and not merely rudimentary styles, as in existing batrachia. The facial division of the skull was broad and flattened, resembling that of the gigantic salamander and the alligator. The outer surface of the nasal and maxillary bones is sculptured, as in the crocodilian family, but in a relatively larger pattern—nevertheless, as analogous sculpturing characterises the cranial and other bones of certain fishes, as well as the jugal bones of the spotted cavy among mammalia, Mr. Owen lays less stress on this indication of saurian affinities than he does on the unquestionably batrachian characters exhibited in the expanse and entireness of the maxillary wall of the skull. The posterior and anterior palatal foramina, Mr. Owen is of opinion, were distinct, as in the iguana. In the *L. leptognathus*, the length of the head, as compared with the breadth, approximates more nearly to the crocodilian proportion than to the ordinary batrachian ones. In describing a portion, six inches in length, of a long straight left ramus of the lower jaw of the *L. leptognathus*, from near Warwick, the author dwells on other striking batrachian characters. Thus, the angular piece is of great breadth, extending on both sides of the jaw, and is continued forward to near the symphasis, forming all the inferior part of the ramus, and reaching upon its inner as far as upon its outer side, the inner plate performing the function of the *os operculare* in the jaw of sauriens. In the deep and wide groove, along the upper surface of the angular, rests the dentary bone, the angular piece projecting beyond the groove, so as to form a strong convex ridge on the exterior side of the jaw, below the dentary element. This character is confined, in the bull frog, to the posterior part of the maxillary ramus, but, in the labyrinthodon, is continued to near the extremity. The teeth in this fragment are long and slender, gradually decreasing in size towards the anterior portion of the jaw, and are fifty in number in a single linear series, but implanted alternately a little more externally and internally. The sockets are shallower than in the upper jaw—the outer wall is more developed than the inner in the *L. leptognathus*, but not in the *L. pachygnathus*, and the anchylosed bases of the teeth more nearly resemble, in their oblique position, those of existing batrachia. The striations, fluting, and labyrinthic inflections of the external cement are confined to the basal third of the tooth; and beyond this point the internal structure resembles, in its simplicity, that of the entire teeth of the ordinary batrachia and of most reptiles. In describing a portion of the lower jaw of the *L. pachygnathus*, containing forty serial teeth, the sockets are shown to be in close contact, and the teeth to diminish very gradually in size as they approach both ends of the series, but chiefly so towards the anterior part of the jaw. In the ramus of the *L. leptognathus*, before noticed, there appeared, at the fore part, the base of the socket of a large tooth; but in the symphasis of this fragment of the *L. pachygnathus*, are three great luminary teeth, which present, in their lower part, different modifications of the labyrinthic inflections—a section of the second tusk, taken above the socket, exhibiting an arrangement closely analogous to that at the base of the teeth of the ichthyosaurus. In addition to the ichthyic character, already noticed, of the teeth being anchylosed to the bottom of the socket, the portion of the lower jaw of *L. pachygnathus*, examined by Mr. Owen, exhibits the important dental structure of a row of small teeth anterior and external to the two larger luminary tusks—a double disposition which does not exist in the maxillary bones, either superior or inferior of any batrachian or saurian reptile, and had previously been met with in the lower jaw only in fishes. Two vertebræ of *L. leptognathus* are next described, and it is shown that the articular extremities exhibit the biconcave condition, which now exist only in the *Perennibranchiate batrachia*, but they are less deep and contined. The vertebræ present also the same exceptional condition in the reptilian class as those of existing batrachians, in having the superior arch anchylosed with the centrum. In one of the vertebræ, belonging to the dorsal series, are the remains of thick and strong transverse processes, indicating, Mr. Owen says, an expanding respiratory cavity, and that the animal had ribs. The spinal canal appears, so far as the author has been able to excavate it, to sink in its progress into the substance of the centrum in a similar manner to that exhibited in the saurian vertebræ found in the magnesian conglomerate near Bristol. In describing a mass of bones found in the neighbourhood of Leamington, and shown by Mr. Owen to be so closely allied to those already noticed, as to induce him to consider the animal to which they belonged as only a subgenus of the labyrinthodon; two vertebræ are mentioned, and their terminal articular surfaces are shown to slope obliquely from the axis of the vertebræ, as in the dorsal series of the frog, indicating, he says, an habitual inflexion of that portion of the spine analogous to the hunched or bent back of the frog; another of the vertebræ in the same mass exhibited a further batrachian analogy in the expansion of the elongated summit of the spinous process into a horizontal flattened plate, the sides of which slightly overhang the base of the spine, and the upper surface is sculptured by irregular pits. A similar flattening of the summit of the elongated spine is presented in the large atlas of the toad. A specimen from the sandstone of Grinsill contains a chain of thirteen vertebræ in successive juxta position, but too much mutilated to have their characters determined. Mr. Owen, however, believes that they belong to the same species as the Leamington fossil, having received from the Grinsill quarries vertebræ agreeing with those noticed above; and he adds, admitting such to be the case, this series of thirteen vertebræ will remove the extinct batrachian from the anourous division of the order, because none of its species present more than eight vertebræ between the occiput and sacrum. In the Leamington mass of bones are fragments of cranium, confirming Mr. Owen's inferences, drawn from the structure of the nasal cavities, and the strong transverse processes of the vertebræ, that the extinct batrachian possessed longer and more curved ribs than any existing species. A symmetrical bone, resembling the episternum of the ichthyosaurus, is likewise described; and Mr. Owen shows from its structure that the labyrinthodon had clavicles, another distinction from the osteology of the crocodiles, and agreement with that of batrachia. Of the few bones of the extremities which have come under Mr. Owen's inspection, one presents all the characteristics of the corresponding part of the humerus of a toad or frog—viz., the convex, somewhat transversely extended articular end, the internal longitudinal depression, and the well-developed deltoid ridge. The length of the fragment is two inches, and the breadth thirteen lines. Again, in the right ilium, about six inches in length, there is a combination of crocodilian and batrachian characters. As this bone was discovered in the same quarry in which the two fragments of the cranium and the portion of the lower jaw were found, Mr. Owen thinks they may have all belonged to the same animal; and if so, as the portions of the head correspond in size with those of the head of a crocodile six or seven feet in length, but the acetabulum connected with the ilium with that of a crocodile twenty-five feet in length, then the hinder extremities of the labyrinthodon must have been of disproportionate magnitude compared with those of existing sauriens, but they would approximate in this respect with some of the existing anourous batrachia. Among the bones found at Leamington, already noticed, was a humerus one inch in length, and a tibia, wanting the extremities, two inches one line in length. Two toe bones are described, and stated to be strictly batrachian in their characters. In the mass of Leamington bones, Mr. Owen detected several osseous, sculptured, dermal plates, indicating that the animal to which they belonged was not a naked reptile, and approximating it to a loricated. Though similar remains have not been found associated with the bones from other localities described in this memoir, the author is yet of opinion they do not disprove that the Leamington fossil was a batrachian, or that it was essentially distinct from the animal of the Warwick sandstone, as detached superficial plates are most liable to be separated from the fragmentary skeleton of the individual they once clothed; and he adds, that no anatomist can contemplate the extensive development and bold sculpturing of the dermal surface of the cranial bones in the *Labyrinthodon pachygnathus* and *L. leptognathus* without an internal suspicion that the same characters may have been manifested in ossific plates of the skin in other parts parts of the body. With respect to the impressions to which the term Cheirotherium footsteps has been applied, Mr. Owen states that he has long entertained the belief that they were the footsteps of a reptile, and most probably of that family which includes the toad and frog, on account of the difference in length between the fore and hind legs; but, in consequence of the form of the impressions, he always considered that the animal was manifestly distinct from any known batrachian or other reptile, how, then, we have in the labyrinthodon, observes Mr. Owen, also a batrachian reptile, which differs as remarkably in the structure of its teeth from all recent species, as the fossil footsteps; both the impressions and the remains of the skeleton are moreover peculiar to the new red sandstone. And, in conclusion, he says, "should we not then be justified upon evidence, establishing at least the high probability of its truth, in adding the name of *chirotherium* to the synonyms of the labyrinthodon."

### LONDON ELECTRICAL SOCIETY.—July 20.

The Secretary laid before the society letters of thanks received from the several London societies, and the leading public libraries, &c., of this kingdom, for presents of the *Transactions and Proceedings*, and stated that the like presents were enclosed and being forwarded to the several continental and trans-Atlantic societies.—The communications before the society this evening were, 1st, "On the Perforation of non-conducting Substances by the Mechanical Action of the Electric Fluid," by A. Crosse, Esq., M.E.S. The author secured end to end, on the surface of a piece of window glass, two platinum wires, and connected their other terminations with the respective conductors of a powerful electrical machine; sparks were then passed between the two ends along the surface of the glass, but no effect was produced; the glass was then immersed in water, and, after a certain number of turns of the machine, a hole was drilled through the glass at right angles, to the direction of the stream. What at first sight was remarkable, is that not unfrequently the hole commenced at the side of the glass opposite to that along which the current of sparks was passing. This strange result the author traced to the vibration of the glass beneath the action of the successive shocks, for, upon substituting plate glass, less susceptible of vibration, the hole commenced from the side along which the sparks passed. These experiments were varied in many ways; their results were illustrated by diagrams. Mr. Crosse concludes that, with proper adjustment of the apparatus, not only glass and the softer crystals, but even diamond may be thus drilled.—2d, "The effect of Vegetable Points on free Electricity," by Thos. Pine, Esq.; second communication. This paper contains many original ideas with respect to the functions of leaves, not the least of which is their drawing off from the atmosphere copious streams of electricity; the liberation of which is attended by the decomposition of carbonic acid, the carbon assimilating itself to the growing plant, and the oxygen being released into the atmosphere. The author dwelt at considerable length upon the effects of light and darkness upon plants, and stated that his opinions were not the result of mere reflection, but were based upon very many experiments made by himself upon the subject.—3d, "An account of Experiments undertaken to Investigate the Nature of the change of Colour of Bodies by Heat, and their Conducting Power," by Thomas Pollock, Esq., M.E.S.; second communication. In the first paper on this subject, printed in Part I., session 1841—2 *Proceedings of the London Electrical Society*, the author detailed a series of experiments made by applying heat to several solutions; in this he states that he wished to determine whether "by adding a coloured liquid to a transparent solution a power to influence the galvanometer could not be conferred upon it." The result of his experiments was in the affirmative. The deductions arising from this train of facts are brought with great judgment to bear upon the theory of vibration and the universal principle.—4th, "Method of Restoring to weakened Magnets their primitive Power," by Professor Muncke; translation. This was a short memorandum, recommending the application of as many keepers as the magnet can sustain, and more as its power returns—which, under his mode of treatment, will be the case.—5th, "The Result of different Experiments with a powerful Groves' Battery," by M. De la Rive; translation. The author obtained Daguerreotype pictures by the aid of the light between charcoal points. He states that, "whether in air or in vacuo, there is never a luminous arch between the charcoal points before they have been in contact;" and he accounts for the length of light after this by the constant transfer of particles of carbon from one terminal to the other, which are illuminated in their transit. He states, too, that it is upon these molecules the magnet acts when it produces the rotation of the flame.—6th, The secretary then laid before the society "A Register of the Electrical State of the Atmosphere," &c., by W. H. Weekes, Esq. The portion of this relating to electrical phenomena, is obtained by means of the atmospheric apparatus described at the last meeting of the society. The document itself is a very valuable acquisition to the society, and we are glad to hear that it will be furnished regularly, through the kindness of Mr. Weekes. This, the register for June, as well as that for May, contains notes upon the prevalent diseases.

[We have received the first part of a new issue of the *Transactions of the Electrical Society*, containing several papers of great interest to the admirers of electrical science; to which is prefixed, the rules adopted for the future regulation of the society, from which we learn that the evenings of the ordinary meetings (the third Tuesday in each month) are, in future, to be devoted to the reading of original and translated papers, with descriptions of electrical apparatus, &c. With the specimens before us of the skill and varied nature of the contributions, we cannot but augur well as to the ultimate success of the Society, in its re-formed state—now, we believe, numbering among its members most of the principal scientific men of the day, with an intelligent and intelligent gentleman (Mr. C. V. Walker) for secretary. The *Transactions*, we may add, are to be issued quarterly, and may be procured, by non-members, of their respective booksellers.]

## EARTHQUAKES.

We have another curious example, within these few days, of the synchronism of earthquakes, in localities very distant from each other. An earthquake was felt at Paris, and still more severely in the central parts of France, at Nevers, Bourges, Tours, and elsewhere, late in the evening of the 8th instant, and early on the morning of the 6th.

The following paragraph, which appeared in the *Scotsman* of 12th June, shows that an earthquake occurred in this country nearly at the same time:—"On the morning of Saturday, the 5th, about three o'clock, a smart shock of earthquake was felt at Comrie, the motion of the earth being from east to east.

The island of Terceira sustained shocks of extreme violence on 12th June. Terceira is one of the Azores islands, and contains 26,000 inhabitants.

The French papers of Sunday bring the following notice from Italy:—"There have been numerous shocks of earthquake, during the month of June, throughout the kingdom of Naples.

A letter from Philadelphia, dated 30th June, in the *Morning Chronicle* of Thursday, says—"St. Louis was shaken by an earthquake on the 12th."—St. Louis is near the junction of the Missouri and Mississippi, almost in the same latitude with Terceira, and about 3560 miles from it. The exact coincidence in point of time between the shocks, at two places so distant, is an interesting fact.

From Naples to Tours is about 700 miles direct distance; from Tours to Comrie also about 700 miles; and the places are nearly in a straight line, running south-east and north-west. From Naples to Terceira is about 2100 miles due west; from Comrie to Terceira, 1600 miles south-south-west. As the Italian paper says the shocks were felt throughout the month of June generally, it is very probable that they had not ceased on the 4th of July, the date of those in France, and later accounts may perhaps show that they continued after the 12th in Terceira, and at St. Louis.—*Scotsman.*

The Iron Trade.—By recent advices from the works, we learn that orders are flowing in, and prices beginning to look up. To have to record an improvement in so important an article of local commerce is indeed a gratifying circumstance.—*Bristol Standard.*

The Coal Trade.—An advance of 1s. 6d. per ton took place at Newport on Monday week. The shipping price for best house coal is 9s. 6d. per ton.

Electro-Magnetic Engine.—M. Stohrer, a mechanician of Leipsic, is making an electro-magnetic engine, which, if M. Wagner, the inventor, be correct in his calculation, is to serve as the locomotive for three ordinary waggons on the railway from Leipsic to Dresden. The cost of one of these engines is only one-seventh of that of those now in use, and the daily cost of working an electro-magnetic engine will not, it is said, exceed 4*d.* per day.

Bank of Manchester.—The bank of Manchester, which for some time past has been the only joint-stock bank of issue in the county of Lancashire, has come to a resolution to withdraw its notes payable to bearer on demand, and to cease any further issues. This bank was established in the year 1823, and commenced its issues shortly afterwards, and having given the principle a fair trial, and finding that a circulation of local notes is objectionable in that county, its directors have at length decided to discontinue their issues, and to use hereafter the notes of the Bank of England only.

Proposed Parachute Signal for Railways.—Professor Partington, in a lecture on the steam-engine, delivered last week at the Literary, Scientific, and Mechanical Institution of Newcastle-upon-Tyne, recommended as a preventative of accidents on railways, that as soon as any circumstance occurred to prevent a train proceeding, a rocket parachute should be sent up into the air, which would remain for a considerable time, and show to the other trains which might be travelling on the same line that there was danger on the road. When speaking of parachutes, the professor said they might be used as fire-escapes, and he would not hesitate himself to leap a considerable way with a strong umbrella in his hand.

Artesian Well at Grenelle.—Numerous visitors now go daily to the *abattoir* of Grenelle to see the extraordinary effect of the Artesian well. At the height of fifteen feet above the shed, which is itself forty-five feet high, the water rises and forms a magnificent fountain sixty feet in elevation, spreading in its fall to a diameter of thirty feet, exhibiting in the distance a gauze-like veil, and producing a sound equal to a powerful mill. At the point immediately over the shed is placed a basin of zinc to receive this mass of water, which a pipe conducts down to one side of the shed, and enables the men employed at the works to move about there without being inundated. It is decided that the tube is to be carried down to about 540 yards, at which point there will be no fear of any further obstructions. M. Mulot, sen., is gone to Bourges, where he is engaged in boring an Artesian well, already carried down to the depth of 200 yards. Messrs. Mulot have at this time in hand fifteen similar undertakings in different departments.

Insects in Chalk.—Professor Ehrenberg has made some remarkable discoveries in the course of his various experiments on chalk. He found that a cubic inch possessed upwards of a million of microscopical animalculæ; consequently, a pound weight of chalk contains above ten millions of these animalculæ! From his researches it appears probable that all the strata of chalk in Europe are the product of microscopical animalculæ, most of them invisible to the naked eye.

## FROM THE LONDON GAZETTE,

*Tuesday, July 20.*

BANKRUPTCY ANNULLED.

John Hermberg, Bloomfield-street, London-wall, tobacconist.

BANKRUPTS.

C. Daly, Red Lion-square, bookseller. [Lawrance and Co., Bucklersbury.

S. Hopkins, Croydon, grocer. [Wilde and Co., College hill, Queen-st., Cheapside.

J. H. Barlow, Change-alley, Cornhill, stock broker. [Taylor and Collison, Great James-street, Bedford row.

J. Dix, Broad-street, Lambeth-walk, licensed victualler. [Dimmock, Size-lane.

H. Ford, Aylesbury, Buckinghamshire, grocer. [Catlin, Bloomsbury, Holborn.

J. Newman, Lewes, Sussex, cabinet. [Burkitt, Carriers' hall, London-wall.

R. Catlin, Leicester, glazier. [Gresham, Castle-street, Holborn.

J. Coppicestone, Plymouth and Exeter, grocer. [White & Co., Lincoln's Inn fields.

W. Cowling, Sandy, Bedfordshire, market gardener. [Rhodes & Co., Chancery lane.

W. Walley, Salford, Lancashire, flour dealer. [Bower and Sark, Chancery lane.

J. Williams, Bangor, Carnarvonshire, shipwright. [Addington & Co., Bedford row.

T. Travis, Oldham, Lancashire, grocer. [Richards and Co., Lincoln's Inn fields.

J. Bass, Brecon, draper. [Fisher, Great James-street, Bedford row.

W. S. Ravenscroft, Manchester, banker. [Makinson and Co., Elm-court.

DIVIDENDS.

Aug. 10, W. S. Warwick, Billiter-square, merchant—J. Exley, Richer-court, Lime-street, merchant—10, C. S. Gay, Helstone, Cornwall, grocer—17, J. Pownall, Leicester, banker—Sept. 3, W. Loraine, Newcastle-upon-Tyne, banker—Aug. 10, T. Stanley and W. Watson, Leeds, cloth merchants—Sept. 28, J. Doughty, Bristol, licensed victualler—Aug. 20, F. W. Hammond, Manchester, banker—31, W. Newall, jun., and A. Harrison, Manchester, grocer.

CERTIFICATES to be granted, unless cause be shown to the contrary, on or before Aug. 10.

J. R. and F. Row, High-street, Aldgate, stationers—R. Phillips, Regent-street, lamp manufacturer—G. J. Bennett, York street, Portman-square, lodging house keeper—W. M'Cleane, Gloucester, merchant—W. and C. Burton, Aston juxta Birmingham, steel manufacturers—H. Mason, Calver, Derbyshire, cotton spinner—J. W. Christie, Burdett-street, Walworth-common, brewer—A. Cull, Blackburn, Lancashire, cotton spinner.

*Friday, July 23.*

INSOLVENT.

July 22.—Charles Maybery, Earl's court, Old Brompton, boarding house keeper.

BANKRUPTCY SUPERSEDED.

John Kyle, Manchester, banker.

BANKRUPTS.

W. and J. Newton, Macclesfield, silk throwsters. [Crowder and Co., Mincing-lane place.

W. Butterworth, Peckham, cow keeper. [Rhodes and Co., Chancery-lane.

J. Butterworth, Bermondsey, leather factor. [Rhodes and Co., Chancery-lane.

T. Lingham, Cross-lane, St. Mary-at-Hill, wine merchant. [James, Basinghall-st.

J. Fox, Minories, tailor. [Biggerdike, Wallbrook.

J. Morris, Earl's court, Lowndes square, cowkeeper. [Smith, Bernard's Inn.

C. Stratton, Nine Elms, Surrey, timber merchant. [Newton and Evans, Warnford-place, Bartlett's Buildings.

G. Baldry, jun., Ip wich, innkeeper. [Walter & Co., Symond's Inn, Chancery-lane.

H. Cundell, Green Hyworth, Lancashire, shopkeeper. [Wigglesworth, Salisbury, and Craddock, Gray's Inn.

S. Coleman, Liverpool, stockbroker. [Vincent and Co., King's Bench-walk.

J. and W. Green, Wetherby, Yorkshire, timber merchants. [Johnson, Son, and Weatherall, King's Bench-walk, Temple.

S. Westhead, Waterloo, Lancashire, victualler. [Holme and Co., New Inn.

DIVIDENDS.

August 6, G. Wightman, Paternoster-row, City, bookseller—J. Wheeler, Princes-street, Hanover-square, tailor—14, F. P. Thorne, Warwick square, City, grocer—16, H. Rotherham and T. Baylis, Canterbury, coal merchants—S. Bennett and J. R. Bennett, Canterbury, wine merchants—S. Bloodworth, Loughborough, Leicestershire, miller—Col. L. G. Radcliffe, Cheltenham, banker—Aug. 17, F. Brooke, Leeds, merchant.

CERTIFICATES to be granted, unless cause be shown to the contrary, on or before Aug. 13.

W. Osborne, Great Bare, Staffordshire, stationer—W. Marston, Gravesend Barton, Carmarthenshire, banker—S. Marsh, Finsbury-place, City, metal dealer—E. Bloxwood, Canterbury, baker—G. S. Lovell, Wolverhampton, japanner.

## MONEY MARKET AND CITY NEWS.

### CURRENT PRICES OF ENGLISH AND FOREIGN FUNDS.

| | |
|---|---|
| Consols Money, 89¾ | Danish, 3 per Cent., 78½ 9 |
| Ditto Account, 89¾ | Dutch, 2½ per Cent., 51 ¼ |
| New 3½ per Cents., 98½ ¾ | Ditto, 5 per Cent., '99½ ¾ |
| Reduced 3 per Cents., 99 ¾ | Portuguese, 5 per Cent., 30½ ¾ |
| Reduced 3½ per Cents., 99¼ ¾ | Ditto, 3 per Cent., 19½ ¾ |
| Long Annuities, 19 | Russian, 5 per Cent., 113 14 |
| Stock Stock, 174 2 | Spanish, Actives, 5 per Cent., 29½ ¾ |
| Ex Bequer Bills, 13 15 pm. | Chili, 6 per Cent., 66 67 |
| Belgian Bonds, 5 per Cent., 100½ 1½ | Colombian, 6 per Cent., 19½ 20 |
| Brazil, 5 per Cent., 67¼ ¾ | Mexican, 5 per Cent., 25½ 6 |

SATURDAY.—The Government stocks were better to-day, at an advance of nearly ¼ per cent., which was maintained up to the close of business; this firmness is attributed to the fact of buyers having come from the foreign into the English market. Consols for Money closed 89¾ to ¾; and for the Account, 90, buyers; 3 per Cents. Reduced, 90 to ¾.

The business transacted in the foreign stock market was somewhat extensive, at improved prices in almost all the foreign securities usually dealt in. Spanish Actives opened at 29¾ to ¾, from which price they gradually advanced, when a purchase of about 60,000*l.* to 70,000*l.*, effected at 30½, caused a further improvement to 30¾; towards the close of business, however, a slight reaction took place, the last price being 30¼ to ¾. Portuguese and South American stocks also improved about ¼ per cent.

There was an improvement in the prices of the leading railway shares to-day, especially with respect to Great Western, Birmingham, and Brighton. Great Western closed 16 to 14 pm.; Brighton, 7¼ to 7 dis.; and Birmingham, 68 to 70 pm. —Real del Monte Mining Company, unregistered, 2¾.—London Joint-Stock Bank, 13¾; National of Ireland, 15½, ex div.

MONDAY.—The national stocks were steady all day, at prices a trifle firmer than Saturday, but little business was transacted.

The principal of the foreign stocks were also quoted a little better.

Intelligence was received this morning of the stoppage of Messrs. Wise, Farewell, and Co., who were the only private bankers at Tetuan. The bank seems to have been a very small concern, and the failure has excited no sensation whatever in the city.

The stoppage of Messrs. Geymuller and Co., of Vienna, announced to-day, has caused a feeling of regret in the commercial circles, the firm being one of old standing and considerable eminence.

Business was brisk in shares, and Great Western closed at the very advanced price of 21 to 3 pm.; and ditto, half-shares, 9¾ to 10¼ pm. Gosport shares left off 7 to 9 pm., ex div.; Blackwall at 2½ to ¾ dis.; Brighton, 7¼ to 6¾ dis.; Birmingham, 68 to 71 pm.; South-Western, 5¼ to 5¾ per share; North Midland, 5s to 3s dis.; ditto new, 6¾ to 7¼ dis.—British North American Bank, 25¾; National of Ireland, 15, ex div.

TUESDAY.—The very unfavourable state of the weather has affected the public funds to-day, and the national stocks closed heavy, at prices a fraction lower than yesterday.

All the foreign stocks were depressed.

There was a considerable demand for bills upon foreign places generally to-day, and Paris and Amsterdam were consequently a shade lower. On Hamburgh the downward tendency was more strongly marked. The rates on Vienna and Trieste were likewise rather depressed.

The premium on gold at Paris is 7¼ per mille, which, at the English Mint price of 3*l.* 17s. 10½*d.* per ounce for standard gold, gives an exchange of 25. 3*d.*, and the exchange at Paris on London at short being 25. 4¾, it follows that gold is 0·38 per cent. dearer in London than in Paris.

By advices from Hamburgh the price of gold is 439 per mark, which, at the English Mint price of 3*l.* 17s. 10½*d.* per ounce for standard gold, gives an exchange of 13. 7, and the exchange at Hamburgh on London at short being 13. 7¼, it follows that gold is 0·12 per cent. dearer in London than in Hamburgh.

The course of exchange at New York on London is 108¾ per cent., and the par of exchange between England and America being 109 23-40 per cent., it follows that the exchange is 0·82 per cent. against England. But the quoted exchange at New York being for bills at sixty days' sight, the interest must be deducted from the above difference.

Railway shares, under the influence of our own funds, also declined.—British North American Bank, 25¾.

WEDNESDAY.—The continued unreasonable state of the weather exercises restraint over the dealings in the public funds. The national stocks were quoted in the early part of the day ¼ per cent. lower than yesterday, but as an increase in money business took place before the market finally closed, they assumed a firmer appearance, and left off much as they opened, Consols being marked 89¾ to ¾ for Money, and 90¼ to 90 for the Account. To-day was the first day of transfer after opening in the New 3½ per Cents, and they closed 99; 3 per Cents. Reduced closed 90; 3½ per Cents. Reduced, 99¾; Exchequer Bills, 15s. to 13s. pm.; Bank Stock, 176¾ to 1¼; and India Stock, 248½ to 9½.

Business in the foreign house was extremely dull, and was confined to a few operations in Spanish Actives, which, after being quoted at 30 to ¼ in the early part of the day, advanced to 30¾ to ¾, at which they closed; the other foreign securities usually dealt in were nominally the same as yesterday.

There was no material alteration in the share market. Great Westerns were somewhat flatter in the early part of the day, but subsequently recovered, and closed the same as yesterday. Brightons also closed rather firmer.—London Joint-Stock Bank, 12¾.

THURSDAY.—There were in the course of the day occasional fluctuations in the favourite Government securities, and although the closing prices were flat as compared with those of the earlier hours of business, neither the fluctuations which occurred, nor the depressed appearance, was considered as essentially affecting the market, as the increased investments made with the surplus of the late dividends are sufficient to sustain its steadiness. Consols for Money, which had reached 89¾, closed 89¾ to ¾, and, for the Account, 89¾ to 90.

In the foreign market the receipt of higher prices from Paris caused some demand for Spanish Actives in the early part of the day, the quotation at one time being 30¼ to ½; towards the close of business, however, prices gave way, and closed at 29¾ to ¾. Dutch stock was quoted fully ¼ per cent higher than yesterday.

A trifling improvement occurred in the value of Great Western and Brighton shares. Great Westerns closed at 68 to 70 pm.; Brighton 7¼ to ¼ dis.; Blackwall, 2¼ to ½ dis.—Cobre Copper Mining Company, 20½ to ¾; Real del Monte, unregistered, 2¾ to ¾.—Colonial Bank, 21½.

FRIDAY.—The English funds have been nearly stationary all day, and the continued unpropitious state of the weather has tended to check business. Consols for money closed 89¾ and for the account, 89¾; 3 per Cents. Reduced left off 90 to ¼; 3½ per Cents. Reduced, 99¾; Long Annuities (expiring the 5th of January, 1860), 19¼; ditto, 35 years (expiring January 5, 1885), 17¾; India Stock, 248½; India Bonds, 4 pm.; and Exchequer bills, 14s. to 16s. pm.

The bargains made in Dutch at the fixed investment Fund, which, of course, increase the firmness of the respective descriptions, are the only business worth notice in the foreign market. The 2½ per Cents. left off 51¾ to ¾; and the 5 per Cents. 99¼ to 100. Spanish Actives closed 29¾ to ¾; Portuguese 3 per Cents., 20¾ to ¼; Portuguese 5 per Cents., 19 to ¾; Colombian, 19¼ to 20; Mexican, 25¼ to 26; and Danish, 79 to 80.

There being a considerable demand on Change to-day for bills upon Hamburgh and Amsterdam, the rates were consequently depressed. Amsterdam short 12. 11 to ¾; Hamburgh, three months, 13. 7¼ to ½; Paris about the same as last post.

The *Frankfort Gazette*, under date Vienna, 14th inst., announces the failure of the banking-house of Belmont of that capital for 3,000,000 florins (300,000*l.* British), which caused a considerable depression in the bourse.

The Vienna *Zeitung* of the 11th says—"The insolvency of the house of Geymuller and Co. was brought about, as we are informed, by circumstances of a temporary nature. It is expected the whole loss will be covered, as the very extensive pledges of Her von Geymuller afford an ample confidence guarantee."

There was very little business done in the share market. Birmingham shares were finally quoted 70 to 71 pm.; Great Western, 16 to 18 pm.; 4000 new, 71 to 81 pm.; Gosport, 7 to 8 pm., ex div.; North Midland, 3½ to ¼ dis.; ditto new, 7¼ to 6¾ dis.; Blackwall, 2½ to ¾ dis.; Brighton, 6¾ to ¾ dis.; and South Western, 5¼ to 5¾ per share.—Australasian Bank, 37 to 9; Colonial, 22½.

From Sydney papers, just received, we learn that a general meeting of the shareholders of the Australian Agricultural Company has taken place. By the statement submitted of the company's affairs to the 31 of December, '40, it appears that the liabilities amounted to 9,464*l.* 18s. 7*d.*, and the assets to 114,338*l.* 13s. 7*d.*, leaving an apparent balance in the company's favour of 23,873*l.*, or 14,409*l.* more than the paid up capital, to which was to be added, the sum of 4000*l.*, being the estimated value of the remaining 40 hand and charged to the debit of merchandize account; these latter sums making together 64,409*l.*, which was nominally the nett profit for the year's result, however, considered far from satisfactory, when the immense amount of liabilities was taken into consideration too. The directors, it would appear, expressed to the meeting their fearful apprehension that the losses of the company, in consequence of bad debts, would absorb not only all the profit, but a considerable per ton of the paid up capital. This company, it appears, started in January, 1841, with a paid up capital of 250,000*l.* and in August and September of the same year, exhibited tangible proofs of embarrassment, and in March, 1841, as will be seen, exhibit a complete wreck.

LATEST PRICES OF IRISH STOCKS.—5 per Cent. Consols, 92¾—Bank Stock, 204—Ditto New, 100½, 9½—5 per Cent. Debentures, 91½—Bank Stock, 12½—Kingstown Railway, 7½—Drogheda, 7½—National Insurance Company, 10½—City of Dublin Steam Company, 113—Ditto Stock, 150*l.* 50½—British and Irish Steam Company, 23½—Hibernian Bank, 20—Royal Bank, 19—Mining Company of Ireland, 13¾—Wicklow Copper Mines, 10¾.

PARIS, June 10.—3 per Cents., 71*f.* 35*c.*; 4½ per Cents., 104*f.* 25*c.*; 4 per Cents., not fixed.; 5 per Cents., 99*f.* 5 *c.*; Bank Actions, 2160*f.*; Rente de Naples, 100*f.*; Romans, 102½; Spanish Actives, 31¾; ditto Passives, 4½; Belgian 5 per Cents. 1841, 100¾; ditto, 1840, 100¾; Society of Brussels, 1*l.* 7*s.*; Belgian Bank, 765*f.*; Dutch 2½ per Cents., 51¾; Haytian Loan, 615 10*c.*—Versailles Railway, R. B., 3*f.* 50*c.*; L. R., 10*f.*; Rouen, 63*f.*; Bonnieres to La Teste, 80*f.*; Orleans, 40*f.*; 90 subscribed to Dieppe, 75*f.* Exchange on London, one month, money, 25*f.* 20*c.*; three months, paper, 25*f.* 15*c.*; money, 25*f.* 12*c.*

AMSTERDAM, June 10.—Actual Debt, 51 per Cents., 53¼ to ¾; 5 per Cents., 100¾ to ¾; Amort Bonds, 4½ per Cents., 97¾ to ¾; ditto 4 per Cents., 74 to ¼; Commerce Company, 45 per Cents., 94½ ¾; Loan, 1837, 5 per Cents., 98¼ to ¾. Exchange on London, 12 10; two months, ¾; on Hamburgh, 35 75; two months, 35 50.

VIENNA, June 12.—5 per Cents., 109¾; 4 per Cents., 99¾; 3 per Cents., 73¼; Bank Shares, 1195.

RUSSIAN LOAN.—A letter from Amsterdam of the 12th instant, in the Constitutionnel, says—"For several days past, the money arising from the Russian loan effected here has been putting on board the three first-rate ships of war at the Helder, and as soon as the shipment shall have been effected the Russian Prince will return on board the squadron, and set sail immediately for St. Petersburgh. The cargo consists of new dollars, which the house of Hope and Co. have had coined at Utrecht, with the exception of nine millions of florins in silver bars, purchased by this house some time since, and in consequence of which purchase the value of silver has risen momentarily 1 per cent. The money might, it is said, have been all embarked in one vessel, but it was thought better to divide it amongst three, in order to diminish the sea risk, as no later news has been received. The money of the first series of the same loan was sent by land. For this purpose a superior officer of the Russian army, followed by a considerable number of subalterns and soldiers, arrived in Amsterdam with waggons, but the number of waggons being found insufficient, others were purchased. The inconvenience of this means of transport having been experienced, it was resolved that the next supply should be sent by sea."

### MERCANTILE CONDITION OF THE UNITED STATES.

(Extract of a letter from Philadelphia, dated June 16.)

Business still continues dull, and our country in a terrible condition. Most of our banks are insolvent, and all confidence in banking institutions is lost. Our state (Pennsylvania) is something like 35,000,000 dollars in debt, and at this time they are levying taxes to pay the interest. Our improvements, yet unfinished, of course bring us in nothing, and many of them, when completed, will not pay for keeping them in repair. We have had the most rascally set of scamps in our State Legislature that ever country was cursed with. The public monies have been lavished in the most infamous manner, and our banks have been entering upon all kinds of speculations, buying stocks that are not worth a cent at present, and will require years to make them profitable. Our merchants, like the banks, have been speculating and importing as long as they could get accommodations from the banks, or as long as England would take their paper. The consequence is, that pay day is at length arrived, and where is the money to pay with? The merchant breaks—the banks break—the stocks are sold to others equally rotten, and so they keep the ball rolling. Our mechanics are ground to the earth, for what with the introduction of machinery in all branches of mechanism, and the multiplicity of auctioneers, it is useless for a man of small means to attempt to live by his business. Our country is flooded with all kinds of goods, which are daily sacrificed at some of those infernal levelling shops. Why, you ask, are these evils suffered to exist? Because they bring into the state a large revenue, more than 44,000 dollars per annum being paid to this state for auction duties, to say nothing about commissions, which vary from 200 dollars to 2000 dollars per annum. All this is drawn from the working classes, and whom does it benefit? Not the poor; for everything tends to make the rich richer, and the poor poorer. This summer there will be greater sacrifices of all kinds of property made than were ever known—a fine chance for a man with a few thousand dollars at his command. Most of our property holders have been dependent on our banks, and as they fall so does the property; and on coming into the market it is bought for less than half of its original cost.

GLASGOW, WEDNESDAY.—There has been a general depression in all monetary affairs during the month. The accounts from the manufacturing districts have been discouraging, and the occurrence of several extensive failures has increased the want of confidence previously existing. The attention of capitalists is now anxiously directed to the prospects of the coming harvest, as that which will chiefly regulate the bank issues; anything affecting its successful termination would be doubly disastrous, from the present light stocks of grain throughout the country. Money, however, continues abundant; and should the prospects of the harvest continue favourable, the Government become settled next month, and the financial difficulties of the country be adjusted, it is generally expected that confidence will be then restored, and an improvement take place in the money market tending to enhance the value of all investments. In bank stocks there is little doing, and prices are not much different from those of last month. The annual meeting of the City of Glasgow Bank was held on the 7th inst., when a dividend of 5 per cent. on 75, 10s. of each share, and 5 per cent. on the remaining 1*l.* 5s. for the time the same had been paid up, was declared, and 2000*l.* added to the surplus fund. The shares fell to 91 9s.; but have since been done at 92, 11s. The annual meeting of the Clydesdale Bank took place on the 14th inst., when a dividend of 6 per cent was declared, and about 7000*l.* added to the "rest." The stock is now held for 124*l.* per share. The shares of the insurance companies are extremely dull of sale. Every month brings more into view the profitable nature of mineral railways (where good minerals really exist, when situated in the vicinity of large towns or good harbours. The Wishaw and Coltness Co.'s line scarcely open its entire length), at the half-yearly meeting held on the 19th inst., increased their dividend from 6 to 8 per cent., and created new shares in the proportion of one new for every three old, which were given off to the shareholders at par. The stock has advanced 16*l.* a share; the Ballochney has also advanced 2*l.* Monkland and Kirkintilloch 1*l.*, and Garnkirk 10s. per share. The stock of the Edinburgh and Glasgow is higher by 1*l.*; and Ayrshire is 1*l.* to 2*l.* per share lower. The English railways have rather improved in value notwithstanding of the depression, with the exception of Great Western shares; the traffic on which, from its entire opening, has not equalled the expectations of the holders.—Ballochney Railway, 84*l.*; Dundee and Arbroath, 27*l.*, ex div.; Edinburgh and Glasgow, 39½*l.*; Garnkirk and Glasgow, 4*l.*; Glasgow and Greenock, 27*l.*; Glasgow, Paisley, Kilmarnock, and Ayr, 38*l.*; Monkland and Kirkintilloch, 59*l.*; Paisley and Renfrew, 4*l.*; Slamannan, 3*l.*; Wishaw and Coltness, 4*l.*

J. WATSON.

EDINBURGH, WEDNESDAY.—We have nothing doing in Scotch railways at present, and the quotations are, consequently, nominal.—Edinburgh and Glasgow may be quoted at 38*l.* sellers; Glasgow and Greenock at 27*l.* for the old, and 3½*l.* for the new; Glasgow and Ayrshire at 8*l.* to 9*l.* dis.; Glasgow and Garnkirk at 2½*l.*; Dundee and Arbroath, 26¼*l.* to 26½*l.*; and Edinburgh Leith, and Newhaven at 5*l.*

ROBERT ALLAN.

BRISTOL, FRIDAY.—Our market has improved since my last, and though not active, it is firm, at my quotations.—Great Western Railway, 80*l.* to 86*l.*; ditto halves, 50*l.* to 50½*l.*; ditto fifths, 9¾*l.* to 10*l.*; Bristol and Exeter, 21*l.* to 22*l.*; Birmingham and Gloucester, 58*l.* to 60*l.*; Bristol and Gloucester, 3*l.* to 3½*l.*; Cheltenham Union, 21½*l.* to 22*l.*; Taff Vale, 65*l.*—Bristol Gas Company, 37*l.*; Clifton Gas, 18*l.*

LUKE ARNOLD.

LEEDS, FRIDAY.—What we hinted at, in the shape of a question in our last week's circular, respecting the probable influence of the wet weather on the minds of the directors of the Bank, and thus influencing the money market, has come out before the public, and is fully verified, and should the present very unpropitious weather continue, the most serious consequences would ensue, affecting trade in general, and the share market in particular. We are likely to have another beautiful illustration of the working of the sliding scale, injuring so many classes, and, in reality, benefitting no one. The share market, generally speaking, is in a very wretched state, and we see no prospects of improvement without fine weather; North Midland shares are better than they were, and may now be sold at 6*d.*, but new thirds are difficult to quit at 1 pm, the second call being so near at hand. Manchester and Leeds are also easier to sell at 18*l.* to 19*l.* dis., and Hull and Selby are to increased demand, owing to the high return of the last week's receipts (9·86 ); they are now worth full 7*l.* Leeds and Selby are steady at 95*l.* York and North Midland in demand at 24*l.* pm. Sheffield and Rotherham inquired for at 23*l.*—North Midland Railway, 6*d.*; York and North Midland, 7*d.*; Leeds and Selby, 30*l.*; Hull and Selby, 24*l.*; Great North of England, 7*l.*; Manchester and Leeds, 43*l.*; Sheffield and Rotherham, 22*l.*—Leeds Banking Company, 19*l.*; Leeds and West Riding, 10*l.*; Leeds Commercial, 33*l.*; Yorkshire District, 21*l.*; Yorkshire Agricultural and Commercial, 1*l.*; York City and County, 2*l.*; York Union, 17*l.*—Leeds and Liverpool Canal, 7½*l.*; Barnsley, 27½*l.*; Huddersfield, 27*l.*; Rochdale, 87*l.*—Leeds and Yorkshire Assurance Company, 12½*l.*—Leeds Old Gas Company, 19*l.*; Leeds New Gas Company, 38*l.*—Leeds Commercial Buildings, 7*l.*

R. B. WATSON & Co.

HULL, THURSDAY.—The low figures at which Hull and Selby Rails now stand have caused a demand for these shares. There has been a fair business passing in them, and there are buyers at our lowest quotations. Hull Dock shares, Gas shares, and Sunderland Banks, would find buyers at the rates marked.—Birmingham and Derby Railway, 6*d.* to 6¼*l.*; Birmingham and Gloucester, 62*l.* to 64*l.*; Grand Junction, 20½*l.*; Great North of England, 7¼*l.* to 7½*l.*; Great Western, 82*l.* to 83*l.*; Hull and Selby, 35½*l.* to 36*l.*; Leeds and Selby, 96*l.*; London and Birmingham, 104*l.*; Manchester and Birmingham, 22½*l.*; Manchester and Leeds, 50*l.*; Midland Counties, 27½*l.*; North Midland, 6½*l.* to 6¾*l.*; Sheffield and Rotherham, 23*l.*; York and North Midland, 24*l.*; Newcastle and Carlisle, 20*l.*—York City and County Bank, 2*l.*; Yorkshire District, 22*l.*; Hull, 71*l.*; Yorkshire Agricultural, 4*l.*; Sunderland Joint-stock, 63*l.*—Hull Dock Company, 127½*l.*—Hull Shipping Company, 10*l.*—Hull Gas Works, 25*l.*—Hull Flax and Cotton Mills, 112*l.*

COLLINSON & FLINT.

MANCHESTER, THURSDAY.—Our market has been decidedly flat, probably owing to the unsettled state of the weather.—South Eastern and Dover railway, 14¾; Manchester and Leeds, 50*l.*; Manchester and Birmingham, 21½*l.* to 23*l.*; London and south Western, 5¾*l.*; Eastern Counties, 2*l.*

BANK OF ENGLAND.—Quarterly Average of the Weekly Liabilities and Assets from the 17th of April to the 26th of July, 1841, both inclusive:—

| LIABILITIES | | ASSETS | |
|---|---|---|---|
| Circulation | £18,021,000 | Securities | £22,273,000 |
| Deposits | 7,748,000 | Bullion | 5,170,000 |
| | £25,767,000 | | £27,443,000 |

*Drawing-about, July 22.*

MONMOUTHSHIRE COAL AND IRON TRADE.—An account of coal and iron brought down the tramroad during the week:—Coal, 16,434 tons 18 cwt.; iron 1847 tons 10 cwt. An account of coal and iron brought down the canal during the week:—coal 1314 tons; iron, 1433 tons 5 cwt.—Week of Saturday:

Average standard, 122*l.* 18s.—Average produce, 7¾.—Average price, 6*l.* 12s. 6*d.*—Quantity of ore, 3054 tons.—Quantity of fine copper, 220 tons 5 cwt.—Amount of money, 19,942*l.* 11s. 9*d.*—Average standard of last sale, 123*l.* 8s.—Average Produce, 8¼.

### COMPANIES BY WHOM THE ORES WERE PURCHASED.

| | Tons. | Amount. |
|---|---|---|
| Mines Royal Company | 247 | £2464 1 6 |
| Vivian and Sons | 739¼ | 3404 7 10 |
| Freeman and Co. | 218½ | 1522 14 6 |
| Grenfell and Sons | 405 | 2901 12 9 |
| Crown Copper Company | 21 | 151 13 4 |
| Sims, Willyams, Neville, Druce, and Co. | 467 | 2987 5 6 |
| Williams, Foster, and Co. | 972½ | 6442 16 4 |
| Total | 3053 | £19,892 11 0 |

Copper ores for sale on Thursday next, at Pearce's Hotel, Truro.—Mines and Parcels.—Consolidated Mines, 126; United Mines, 585; Hallenbeagle, 3 5; Fowey Consols, 381; Tresavean, 273; Francis's Ore, 210; Trelvil, 263; Wheal Ellen, 167; Great Wheal Charlotte, 123; Wheal Vyvyan, 94; West Wheal Jewel, 84; Wheal Brewer, 58; Wheal Tehidy, 55; Wheal Leeds, 48.—Total, 3752 tons.

Copper ores for sale on Thursday week, at Tyack's Hotel, Camborne.—Mines and Parcels.—East Wheal Crofty, &c., 720; Dolcoath, 415; Par Consols, 393; United Hills, 327; Fowey Consols, 281; South Wheal Basset, 231; East Pool, 228; Bray Park, 176; Treleigh Consols, 112; Wheal Harriet, 90; Wheal Messer, 55; Wheal Clifford, 30; Wheal Sparrow, 26.—Total, 3097 tons.

### SALE OF BLACK TIN,

*By Ticket, on the 20th of July, at Truro.*

| Mines. | Tons. | Price. | Amount. | Purchasers. |
|---|---|---|---|---|
| Charlestown | 26½ | 47 12 6 | 1262 1 3 | L.C.&W.Daubuz |
| ditto | 7 | 46 12 6 | 329 7 6 | ditto. |
| ditto | 8¾ | 46 7 6 | 405 15 7 | ditto. |
| ditto | 5½ | 46 15 0 | 251 12 6 | ditto. |
| ditto | 2¼ | 38 5 0 | 86 12 6 | Williams and Co. |
| ditto | 2½ | 37 10 0 | 103 2 6 | ditto. |
| Bednick | 10 | 52 5 0 | 572 10 0 | L.C.&W.Daubuz |
| ditto | 11 | 48 17 6 | 537 12 6 | Williams and Co. |
| ditto | 11¼ | 46 17 6 | 509 1 3 | ditto. |
| ditto | 7 | 46 7 6 | 324 12 6 | L.C.&W.Daubuz |
| ditto | 14 | 37 15 0 | 526 12 6 | Boultons and Co. |
| Polgooth | 10½ | 48 12 6 | 510 11 3 | Williams and Co. |
| ditto | 1½ | 44 15 0 | 70 6 3 | L.C.&W.Daubuz |

Total tons, 106¼.—Total amount, £5013 18 1.

### SALE OF COPPER ORES AT SWANSEA.

Copper ores for sale July 28.—Cobre 90, ditto 80, ditto 73, ditto 70, ditto 57, ditto 80, ditto 70, ditto 60, ditto 57, ditto 48, ditto 46, ditto 100, ditto 90, ditto 64, ditto 90, ditto 80, ditto 50, ditto 32—Chili 90, ditto 64, ditto 50, ditto 16, ditto 54, ditto 41, ditto 32, ditto 11, ditto 02, ditto 40, ditto 14, ditto 10, ditto 10, ditto 14—Knockmahon 121, ditto 116, ditto 109, ditto 97, ditto 54—Chili 106, ditto 109, ditto 76—Santiago 82, ditto 81, ditto 80—Allihies 102, ditto 80—Cronebane 42, ditto 10—Tigrony 23—Lackamore 80.—Total, 3395 tons.

### LATEST CURRENT PRICES OF METALS.

LONDON, JULY 23, 1841.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| IRON, Eng.—Bar *ton* | 0 0 0 to 7 5 0 | COPPER—Foreign... (*dy.* 37s.) | |
| Do. Carg. in Wales | 6 5 0 | TIN, Brit.—Blocks... *cwt* | 4 6 0 |
| Hoops ..... *ton* | 9 15 0 | Bars ..... *cwt.* | 4 2 0 |
| Sheets, ... *ton* | 10 15 0 | Banca ....0 0 0 to 3 12 0 | |
| Pig, No. 1..... *ton* | 5 0 0 | Straits ....0 0 0 to 3 10 0 | |
| Do. in Wales .... | 4 5 0 | Tin Plates—I.C. (box)... | 1 11 0 to 1 14 0 |
| Foreign—Swedes, cn. 6*d.* *ton* | 12 0 0 | I.X. do. ... | 1 17 0 to 2 0 0 |
| Russian com... *ton* | 14 0 0 | (Others in proportion.) | |
| Duty 30s. per ton. P.S.I..... *ton* | 15 0 0 | LEAD, Brit.—Pig ..... *ton* | 20 5 0 |
| C.C.M.D. *ton* | 18 0 0 | Sheet ..... *ton* | 21 5 0 |
| STEEL, Eng. Blistered, | 25 0 0 to 45 0 0 | Shot ..... *ton* | 22 5 0 |
| Shear do. do. | 45 0 0 .. 84 0 0 | Red ..... *ton* | 21 5 0 |
| Cast do. do. | 45 0 0 .. 84 0 0 | White (dry)... *ton* | 26 0 0 |
| Foreign—Swedes in kgs *bd* *ton* | 18 10 0 | Do. (gd. in oil) *ton* | 24? a 29? |
| Duty 20 per cent. Do. Faggots *bd.* *ton* | 19 10 0 | Foreign—Span. (*dy.* 40s.) | 0 0 0 |
| Milan... .. *bd.* *ton* | 0 0 0 | SPELTER ..... | 0 0 0 to 23 15 0 |
| COPPER, Brit.—Cake..... *ton* | 98 0 0 | For delivery | 0 0 0 to 24 10 0 |
| Tile ..... do. | 96 0 0 | English Sheets ..... | 41? a 43? |
| Sheets..... *lb.* | 0 0 1½ | QUICKSILVER—(*dy.* 1*d.* per lb.) | 0 3 11 |

REMARKS.—There is no alteration in the metal markets, excepting lead, in which some business has been done, at better prices.

EXPORTATION OF GOLD AND SILVER.—By the official return published by the Customs, the export of the precious metals from the port of London to foreign and colonial ports, for the week ending Thursday, the 15th inst., was as under:—

| | |
|---|---|
| Silver coin to Hamburgh | 31,400 ounces. |
| ,, Calais | 459,935 ,, |
| Silver bars to Rotterdam | 7,500 ,, |
| Gold coin to New York | 990 ,, |

### COAL MARKET, LONDON.

MONDAY.—Price of coals per ton at the close of the market:—Adair's Main 15 6—Hebburn Main 17 3—Holywell Main 17 6—New Tanfield Moor 15—Old Tanfield Moor 15—Ord's Redheugh 15—Townley 15 6—Wylam 16 6—Wall's End Clennell 16—Hedley 17 6—Hilda 19 3—Hotspur 17—Killingworth 16 3—Newmarch 17 6—Riddell's 16 6—Braddyll's Hetton 20 6—Belmont 19 9—Haswell 20 3—Hetton 20 3—North Durham 15 6—Russell's Hetton 20 6—Stewart's 20 9—Cassop 20 3—Kelloe 20 3—Tennant's Hartlepool 20—Hartington Trees 16 9—South Durham 15 3—Seymour Tees 18 6—Tees 20—West Hetton 18 3—Hartley 17 6—Howard's Netherton Main 16 6—Langeneuch coal 22 6.—Ships arrived, 45.

WEDNESDAY.—Adair's Main 15 6—Boddle's West Hartley 17—Holywell Main 18—New Garesfield 14 15—New Tanfield Moor 15—Old Tanfield Moor 15—Ravensworth's West Hartley 17 6—Tanfield Moor 2—Bute's Vane 16 Moor 15 9—Wall's End Wylam 17—Pelaw 14 6—Bewicke and Co.'s 19 6—Brown's 17—Clennell 16—Hilda 18 3—Killingworth 16 3—Riddell's 16 9—East Hetton 18 6—Haswell 20 9—Newton Main 16—Standrig 14—Hetton 20 9—Lambton 20 9—Caradoc 21 9—Cassop 20 9—Stewart's 21—Whitwell 19 9—Howden's Hartlepool 18 9—Reynolds's ditto 18—Tennant's ditto 2—Adelaide 19 9—Barrett 18 6—Brown's Deanery 16 6—Barrington Tees 16 9—Tees 2—Tees Hetton 17—West Hetton 18 3—Hartley 17 6—Langeneuch coal 22 6.—Ships arrived, 57.

FRIDAY.—Adair's Main 15 6—Boddle's West Hartley 17 6—Holywell Main 18—New Garesfield 14 6—Old Tanfield 15—Ord's Redheugh 15 6—Wall's End Brown's 17—Bayley's 15—Hilda 18 6—Hotspur 17 6—Perkins 17 3—Hetton 21 6—Pemberton 19 6—Howden Hartlepool 18—Reynold's Hartlepool 19—Tees 21—Tees Hetton 17 6—Cowpen 16 6—Standrig 14.—Ships arrived, 18.

MINING SHARES.—For the "Mining Share List," *see* fourth page.

### RAILWAY SHARE LIST AND TRAFFIC RETURNS.

| Line. | Entire Lgth. | Now Open. | Present actual cost. | Pd. on Share. | Val. of share. | Last week's Returns. |
|---|---|---|---|---|---|---|
| Arbroath and Forfar Railway | 15 | 15 | £ 131,645 | 25 | 25 | 210 2 7 |
| Birmingham & Derby Junc. | 48 | 24½ | 863,044 | 100 | 60 | 1400 10 8 |
| Birmingham and Gloucester | 53½ | 53½ | 1,018,723 | 100 | 60 | 1761 7 10 |
| Chester and Birkenhead | 15 | 15 | 456,964 | 50 | 50 | 643 9 0 |
| Dundee and Arbroath | 16½ | 16½ | 134,934 | 25 | 27½ | 312 0 3½ |
| Eastern Counties* | 126½ | 17½ | 1,475,170 | 25 | 8 | 257 19 10 |
| Glasgow and Ayr | 31 | 31 | 620,543 | 40 | 20½ | 1321 10 0 |
| Glasgow and Paisley Joint | 6½ | 6½ | 250,000 | 25 | 25½ | 1714 0 0 |
| Grand Junction | 97½ | 87½ | 1,850,000 | 100 | 211 | 9041 7 10 |
| Great North of England | 75 | 45 | 1,000,000 | 100 | 65 | 1420 0 0 |
| Great Western | 117 | 92 | 5,598,044 | 65 | 83 7 | 1288.3 14 1 |
| Hull and Selby | 51 | 51 | 460,000 | 80 | 36½ | 9 9 8 11 |
| Lancaster & Preston Junc. | 29½ | 29½ | 300,000 | 42½ | 31 | 379 6 3 |
| Liverpool and Manchester | 31 | 31 | 1,400,000 | 100 | 139½ | 3611 14 2 |
| London and Birmingham | 1174 | 1134 | 5,754,967 | 90 | 100 1 | 10620 4 0 |
| London and Blackwall | 5½ | 5½ | 807,665 | 25 | 13½ | 9 5 11 1 |
| London and Brighton | 49½ | 34 | 1,091,359 | 50 | 42 3½ | 1821 5 11 |
| London and Croydon | 10½ | 10½ | 547,902 | 13 | 12½ | 710 12 7 |
| London and Greenwich | 3½ | 3½ | 705,000 | 20 | 8 9 | 640 17 2 |
| London and South Western | 85 | 74½ | 2,280,667 | 25½ | 34½ 5 | 7200 9 1 |
| Manchester, Bolton, & Bury | 10 | 10 | 779,000 | 25 | 15 | 650 1 9 |
| Manchester & Birmingham | 40 | 8 | 1,100,812 | 40 | 24 | 549 2 8 |
| Manchester and Leeds | 50 | 50 | 2,253,109 | 70 | 50½ | 4026 14 6 |
| Midland Counties | 57 | 57 | 1,449,000 | 100 | 80 | 2910 19 7½ |
| Newcastle and Carlisle | 60½ | 60½ | 750,000 | 100 | 107 | |
| Northern and Eastern* | 72½ | 19½ | 350,913 | 20 | 10 | 687 6 6 |
| North Midland | 72½ | 72½ | 2,929,087 | 100 | 87½ | 4313 19 5½ |
| North Union | 20 | 20 | 240,000 | 25 | 29 | 1207 18 9 |
| Preston and Wyre | 15½ | 10½ | 275,000 | 50 | 10 | 491 2 0 |
| Ulster | 25 | 8 | 220,240 | 22½ | — | 246 12 2 |
| York and North Midland | 53 | 53 | 440,340 | 50 | 73 4 | 1985 7 7 |

* Including Northern and Eastern Railway full. † Rent and toll to Eastern Counties (about 13*l.* per week) included in the returns. ‡ The Liverpool and Manchester toll is deducted.

### METEOROLOGICAL JOURNAL, 1841.

| July | Thermometer | Barometer | July | Thermometer | Barometer |
|---|---|---|---|---|---|
| Thurs. 15 | from 48 to 64 | 29.57 to 29.69 | Monday 19 | 46 .. 69 | 29.74 .. 29.79 |
| Friday 16 | .. 50 .. 62 | 29.40 .. 29.55 | Tuesday 20 | 53 .. 62 | 29.76 .. 29.80 |
| Saturd. 17 | .. 44 .. 66 | 29.54 .. 29.60 | Wednes. 21 | .. 49 .. 67 | 29.44 .. 29.55 |
| Sunday 18 | .. 48 .. 63 | 29.69 .. 29.76 | | | |

Wind W. and N. on the 15th, S.E. and N.E. on the 16th, S.E. on the 17th, N. and W. on the 18th, S.W. on the 19th, and two following days.

On the 15th, morning clear, otherwise overcast—A violent storm of thunder and vivid lightning, accompanied with heavy rain, from about one till seven P.M.; the 16th, evening clear, otherwise cloudy; the 17th, clear; the 18th, cloudy—rain at times; the 19th, evening overcast, otherwise clear; the 20th, general overcast, raining frequently during the day—distant thunder about eleven A.M.; the 21st, clear from about two till full past three P.M., otherwise overcast, small rain falling frequently.—Rain fallen 1 inch and .40 of an inch, of which .825 of an inch fell during the storm of the 15th.

CHARLES HENRY ADAMS.

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